



2-5-24-2M

PRESENTED TO *S.2.A.*



The New York Academy of Medicine

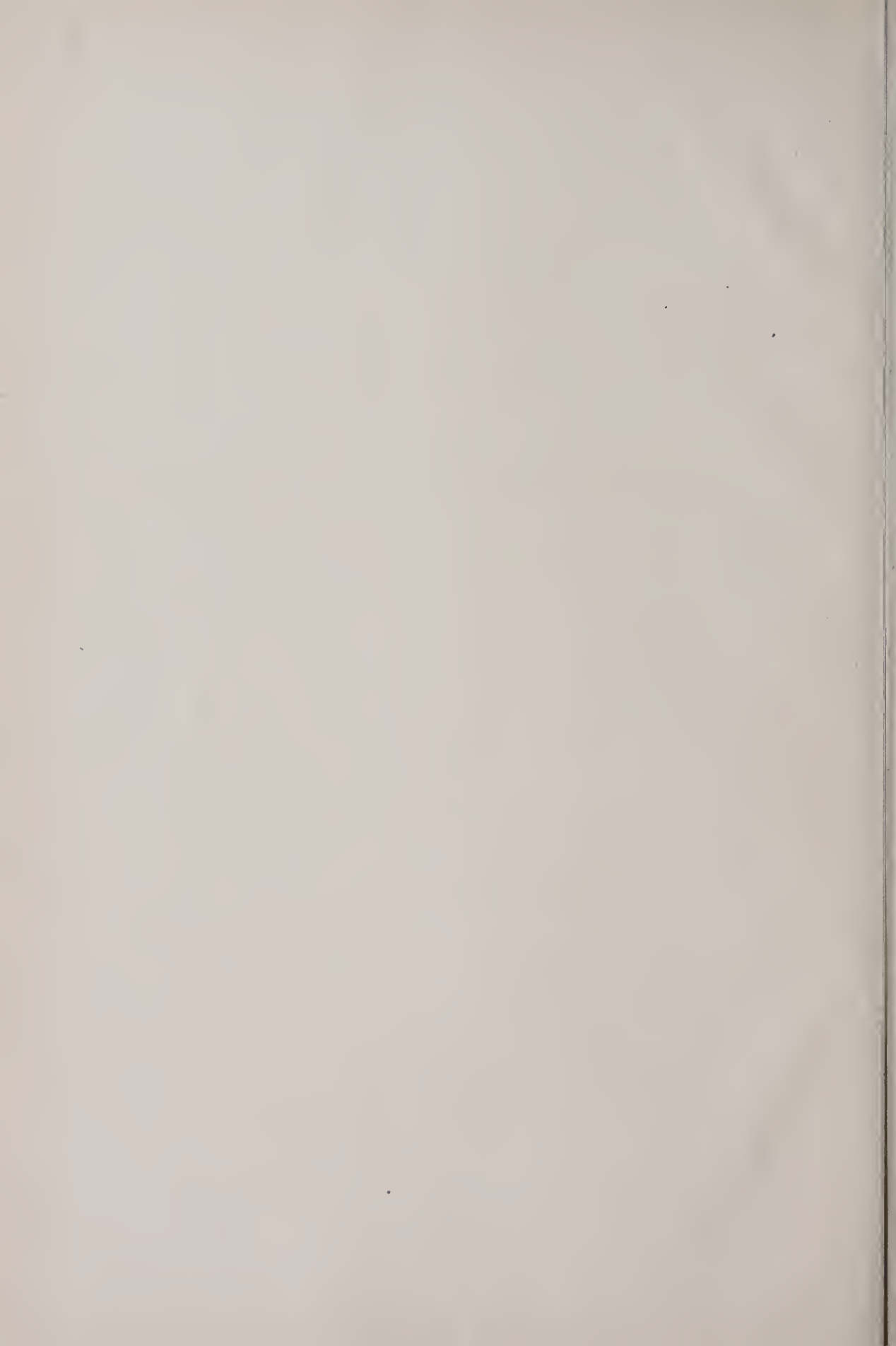
By *Publisher,*













# KENTUCKY MEDICAL JOURNAL

PUBLISHED MONTHLY

BY THE

KENTUCKY STATE MEDICAL ASSOCIATION  
INCORPORATED

---

EDITED BY

ARTHUR T. McCORMACK, M. D.

UNDER THE SUPERVISION OF THE COUNCIL

---

VOLUME XXII

JANUARY TO DECEMBER, INCLUSIVE, 1924

BOWLING GREEN, KENTUCKY  
1924

## INDEX TO VOLUME XXII

COMPILED BY L. H. SOUTH

ORIGINAL ARTICLES, EDITORIALS, SCIENTIFIC EDITORIALS,  
COUNTY SOCIETIES, BOOK REVIEWS.

## A

Acute Injuries of the Brain, 505.  
Absence of Left Tube, Ovary, Anomalous Uterine Formation, 360.  
Adeno-Carcinoma of Colon, 159.  
Acute Infectious Osteomyelitis, 478.  
Acute Mastoiditis From the Standpoint of the General practitioner, 558.  
Acute Septic Pharyngo Laryngitis, 7.  
Analgesia and Anesthesia in Obstetrics, 347.  
Appendicitis With Fistulous Formation, 415.  
Auditor's Report, 321.

## B

Bilateral Paralysis of Fifth Cranial Nerve, 40.  
Bilateral Renal Tuberculosis, 398.  
Birth Injuries to the New Born, 566.  
Bladder Symptoms, Diagnoses and Treatment, 572.  
Bronchoscopic Case, 107.

## C

Carcinoma of Testes, and Urinary Bladder, 36.  
Case of Scleroderma, 39.  
Case for Diagnosis, 21.  
Case Report of Unusual Dislocation, 570.  
Chronic Infections Arthritis, 248.  
Cataract on the Only Eye, 595.  
Celiotomy, 538.  
Clark County Medicos and the World's War, 38.  
Commercial Exhibits, 335.  
Clinical Observations, 485.  
Constitution and By-Laws, 314.  
Consideration of So-Called Primary Anemias, 205.  
Co-operation of the General Practitioner with the Surgeon, 6.  
Curing From Yon to Hither, 544.

## D

Dementia Precox, 299.  
Diabetes, Present Treatment of, 13.  
Diagnosis and Routine Treatment of Pulmonary Tuberculosis, 180.  
Diagnosis and Treatment of Some of the more common lesions of the prostatic urethra, 568.  
Diphtheria, 18.  
Diphtheria of Larynx, Treatment of, 216.  
Doctor, Past, Present and Future, 367.  
Drug Eruption in Child of Seven Months, Erythema Multiforme Bullosum, 408.

## E

Episcleritis from Focal Infection, 571.  
Electro-Cardiograph, Its Value and Limitations, 144.  
Electro-Coagulation Versus Operation in Cancer of Uterus, 371.  
Encephalitis, Sequelae of, 526.  
Endogenous Uric Acid in Conditions Other Than Gout and Nephritis, 240.

Endocrinology in Gynecology and Obstetrics, 261.  
Epidemiology of Typhoid Fever, 592.  
Erysipelas, 288.

Eye Strain as a Cause of Headache, 297.

## EDITORIALS:

Attention Ex-Medical Officers, 418.  
Annual Conference For Health Officers, 112.  
At Our Headquarters, 309.  
Birth and Death Certificates, 363.  
Clark County Has Come Back, 31.  
County Societies, 213.  
Country's Call, 137.  
Corona, 172.  
Conference on Medical Education, 113.  
Diphtheria, 214.  
Doctor Simmons, 275.  
Doctor Olin West Promoted, 418.  
Dr. C. Z. And, Memoriam, 275.  
The Gorgar Memorial, 512.  
Greetings, 1.  
Golfers To, 310.  
Haggard President, 275.  
Health Notes, 3.  
Health of the Worker, 276.  
Honor To Whom Honor Is Due, 31.  
Hygeia, 171.  
Leavell Hugh, Dr., 171.  
Louisville Health Survey, 276.  
Medical Reserve Corps, 172.  
Medical Profession of Kentucky, to the, 53.  
Medical Practice Law, 2.  
Mind and Medicine, 310.  
Mutual Congratulations, 111.  
Narcotic Question, 418.  
New General Antiseptic in Our Advertising Pages, 138.  
New Hospital, a, 310.

New Councilors, 137.

New Director, 363.

Our Alumni, 213.

Program, the, 307.

Program for Louisville Session, 54.

Quacks, 172.

Record Breaking Meeting, 417.

Reply, a, 172.

Reports, the, 307.

Richmond, W. W., Dr., 3.

Robertson, L. L. Dr., 54.

Revocation of Certificates Under the Practice Act, 214.

Southern Medical Association, 31.

State Dues, 417.

Tuberculosis, 171.

Tuley, H. E., 4.

Typhoid Fever, 214.

Two Appointments, 363.

To Former Illinois Doctors, 276.

Whitford William, 54.

Your Dues, 112.

## F

Fatal Case of Melena Neonatorum, 208.  
Foci of Infection Above the Collar Bone and Importance of Their Early Recognition, 552.  
Foreign Body in Eye Fourteen Years, 168.  
Focal Infections From the View Point of the Internist, 500.

## G

Gallstones, Hens, 236.  
Guaillomas Inguinale, 584.

## H

Hospital, Kentucky Baptist, 511.  
Head Sequela of Influenza, 301.  
Heart Disease in Children, 471.  
Hyperemesis Gravidarum, 154.

## I

Indirect Abdominal Pregnancy Having Child Delivered by Celiotomy, 538.  
Insulin in Diabetes, 114.

## L

Laceration of Cervix, 150.  
Lesions of the Prostatic Urethra, 568.  
Lesion of the Second and Third Sacral Segments of the Cord, 497.  
Letters from Sanitarians, 83.  
Local Anesthesia, 161.  
Louisville Health Survey, 276, 511.

## M

Management of The Bottle Fed Baby, 519.  
Management of the Ruptured Appendix, 562.  
Masturbation in a Girl of Eight, 397.  
Metastatic Gonorrhea, 359.  
Medical Fads and Frauds, 376.

## N

Nerofibroma Treated With Radium 596.  
New General Antiseptic in our Advertising Pages, 138.  
Notes of the Life and Work of Edward Jenner, 254.

## O

Obstetrical Column, 33, 100, 139, 177.  
Observation on Surgery of Stomach, 530.  
Obsessive Compulsive Neurosis, 290.  
Occiput Posterior Persistent, 344.  
Official Call, 313.  
Official Minutes of the Seventy-Fourth Annual Meeting, 421.  
Official Minutes of the House of Delegates, 423.  
Osteochondroma of Phalanx, 589.  
Ovarian Carcinoma and Uterine Fibroma, 409.

## P

Paraplegia Case of, 305.  
Pediatric Section of A. M. A., 310.  
Pellegrini, Case Report of, 383.  
Perforating Injuries of the Eye Ball, 257.  
Personal Observation on Treatment of Goiter, 528.  
Placenta Previa, 200.  
Poem by W. A. Washburn, 371.  
Practical Consideration of Diseases of Colon, 228.  
Pregnancy Complicated by Uterine Fibroma, 148, 260.  
Present Treatment of Diabetes, 13.  
Presidential Address, 594.  
Preliminary Program, 215, 311.  
Problem of Medical Cults and Isms, 567.  
Program for Alumni Clinics, 174.  
Program Surgical Section, 312.  
Program, Eye, Ear, Nose and Throat Section, 312.  
Prolapse of Bladder in Infant, 105.  
Pulmonary Embolism Following Phlebitis, 152.  
Purpura Hemorrhagica, Splenectomy, 252.  
Pyrexia of Obscure Origin in Children, 218.  
Typhoid in infancy, 580.

## Q

Qumidin in Treatment of Permanent Auricular Fibrillations, 573.

## R

Radiation in Benign Affections of the Uterus, 204.  
Recognition of Some of the Common Affections of the Endocrine Glands, 491.  
Repeated Uterine Hemorrhage, Cysts, Report of H. E. James, 55.  
Report of Efficiency Commission, 70.  
Report of Two Deaths From Third Inoculation With Typhoid Vaccine, 378.  
Report of the Councilors by Districts, 426 to 433.  
Report of Council, 331.  
Report of Delegates by Counties, 533 to 438.  
Report of Surgical Cases.  
Research and its Relation to Medicine, 547.  
Resolutions from Allen, Bell and Todd Counties, 98, 100.  
Resolutions regarding State Board of Health, 99, 98.  
Retinitis Due to Toxemia of Pregnancy, 582.

## S

Salivary Calculus In Wharton's Duct, 45.  
Scleroderma, a Case of, 39.  
Some Diseases of the Eye Which are of Interest to Every Physician, 475.  
Sarcoma of the Shoroid, 561.  
Sodium Fluoride Poisoning, 150.  
Some Personal Experiences With Chronic Duodenal Ulcers, 385.  
Some Practical Pediatric Suggestions, 337.  
Suggestions as to Etiology and Treatment of Diseases of the Nasal Accessory Sinuses 52.  
Supporters of Christmas Seal, 407.  
Surgery of Duodenal Ulcers, 194.  
Surgery of Spleen, 222.  
Surgery of Prostate, 242.  
Surgery of Bile Tract, 404.  
Syphilis, 285.  
Subphrenic Abscess, 340.

## SCIENTIFIC EDITORIALS:

Argyrol and Its Efficiency, 214.  
A. M. A. Meeting, 277, 278.  
Fool Proof Infant Feeding, 173.

## T

Tetany, 354.  
The Gorgas Memorial, 512.  
Thyroidectomy Under Local Anesthesia, 209.  
Treatment of Diphtheria of Larynx, 216.  
Treatment of Diabetes Mellitus, 394.  
Treatment of Pneumonia, 557.  
Treatment of Puerperal Infection, 184.  
Treatment of Ununited Fracture, 226.  
Tubercular Syphilide, 400.  
Tuberculosis Sanitarium, 271.  
Tuberculosis Diagnosis and Routine Treatment, 180.  
Typhoid Vaccine, Report of Two Deaths from, 378.

## U

Unusual Case of Tetanus, 535.  
Unusual Case of Congenital Internal Hydrocephalus, 390.  
Urinary Incontinence Following Successful Operation for Spina Bifida, 199.  
Uterine Fibroma Weighing 47 pounds, 253.  
Use of the Ophthalmometer, 545.

## V

Vaginal Route In Gynecological Surgery, 388.  
Vaso-Epididymostomy, 483.

## BOOK REVIEWS:

Abts Pediatrics, 273, 26.  
Anatomy and Physiology, 24.  
Blood Chemistry Colorimetric Method, 24.  
Care of Baby, 46.  
Cerebro-Spinal Fluid in Health, Diseases, 110.  
Clinical Diagnosis by Laboratory Methods, 28.  
Compend on Bacteriology Including Pathogenic Protozoa, 21.  
Circulatory Disturbances of the Extremities, 273.  
Clinical Guide to Bedside Examination, 22.  
Clinical Diagnosis, 46.  
Dietary and Its Application Pneumonia, 21.  
Diseases of the Breast, 272.  
Diseases of the Eye, 23.  
Elements of Public Health Administration, 24.  
Epidemiology and Public Health, 28.  
Evolution of Public Health Nursing, 25.  
Exercise For Health and Correction, 26.  
Examination of Patient, 27.  
Fighting Foes Too Small to See, 272.  
Genito Urinary Diseases and Syphilis, 305.  
Gynecology, 25.  
Health of the Run About Child, 22.  
Herman Tistes, 598.  
International Clinics, 46.  
Introduction to Neurology, 46.  
Introduction to Medical Biometry and Vital Statistics, 27.

Manual of Practice of Medicine, 27.  
Military Meat and Diary Hygiene, 598.  
Newer Knowledge of Nutrition, 27.  
Nutrition of Mother and Child, 25.  
Nursing Technic, 25.  
Note Book of an Electro Therapist, 23.  
National Health Series, 272.  
Operative Surgery, 273.  
Practical Text Book of Infection, Immunity and Biologic Therapy, 23.  
Pathological Technic, 305.  
Primer for Diabetic Patients, 23.  
Practical Physiological Chemistry, 22.  
Personal Hygiene Applied, 25.  
Physical Examination and Diagnostic Anatomy, 26.  
Practical Medical Series, 28.  
Principals of Vital Statistics, 27.  
Rubber and Gutta Pucha Injections, 25.  
Rhus Dermatitis, 415.  
Surgical Clinics of North America, 272.

## COUNTY SOCIETY REPORTS:

Barren, 50.  
Ballard, 110.  
Bath, 110.  
Beatchett, 169.  
Boyd, 169, 212, 306, 362, 274, 49.  
Boyle, 48.  
Bourbon, 50, 169.  
Calloway, 49.  
Christian, 135.  
Clark, 30, 48, 133, 170, 274.  
Davies, 110, 416.  
Franklin, 135, 212, 109.  
Fleming, 51.  
Garrard, 51, 510.  
Grayson, 49.  
Green, 49.  
Hardin, 135, 109.  
Harrison, 49, 510.  
Johnson, 51.  
Lincoln, 510.  
Muldraugh Hill, 52.  
Madison, 49.  
McCracken, 48.  
Nelson, 510.  
Perry, 134, 47.  
Pendleton, 136, 50.  
Pike, 262.  
Rockcastle, 510.  
Russell, 51, 146.  
Scott, 170, 136.  
Third District, 29, 274.  
Wayne, 110.  
Washington, 108.  
Whitley, 134.

## CONTRIBUTORS

## A

Abell, Irvin, 54, 197, 513.  
Adams, S. W., 98.  
Aitkins, C. W., 51.  
Allen, E. S., 161, 305.  
Allen, J. D., 240, 207.  
Amon, J. A., 51.  
Anderson, Simrall, 410.  
Asman, Bernard, 165.

## B

Bailey, T. L., 475.  
Baldauf, L. K., 205, 253, 497.  
Barkley, A. H., 376, 404.  
Bartlett, W. E., 98.  
Barbour, P. F., 218, 310.  
Bayless, B. W., 39, 391, 486.  
Bass, A. L., 166.  
Beatty, T. B., 97.  
Beazley, W. H., 95.  
Billings, Frank, 84.  
Bizot, W. R., 156, 552.  
Bledsoe, A. W., 257.  
Blackburn, J. H., 274, 362, 30, 517, 535.  
Bloch, Leo, 155.  
Bloch, O., 37, 390, 164.  
Bogges, W. F., 207, 241, 491.  
Botts, Lee, 18.  
Bradley, Ernest, 131.  
Briggs, W. T., 398.  
Breckinridge, S. D., 261.  
Broeman, C. J., 270.  
Brown, S. S., 269.  
Brown, E. J., 203.  
Burrow, R. C., 52.  
Butler, E. E., 40, 44.  
Bruce, J. W., 397, 523, 580.

## C

Cabot, Hugh, 246.  
Calvert, C. A., 592.  
Carothers, Robert, 466.  
Carpenter, J. G., 187, 251.

- Casper, M., 45, 409.  
 Chesley, A. J., 95, 96.  
 Cogswell, W. F., 87.  
 Cole, Elizabeth, 407.  
 Comer, B. N., 136.  
 Cornett, B. N., 51.  
 Cowan, J. R., 538.  
 Cowley, R. H., 272, 500.  
 Crouch, H. T., 288.  
 Crittenden, C. B., 96.  
 Crumline, S. J., 94.  
 Cumming, H. S., 85.
- D
- Dabney, S. G., 7, 168, 403, 257, 561.  
 Daniel, G. V., 306.  
 Daniel, D. H., 51.  
 Dailey, Haury, Mrs., 99.  
 Dailey, H. J., 110.  
 Davis, R. H., 13, 129.  
 Davis, A. H., 169.  
 Davidson, H. A., 155.  
 Dinwiddle, C., 85.  
 Doyle, G. F., 30, 48, 274, 549.  
 Dowling, Oscar, 91.  
 Dowden, C. W., 228.  
 Dulaney, O., 167, 411.  
 Dunn, J. F., 297.
- E
- Eaton, W. O., 220, 519.  
 Enloe, C. F., 91.  
 Estill, J. R., 221, 337.  
 Evans, R. M., 340.
- F
- Farbach, H. J., 483.  
 Flexner, J. A., 295.  
 Flexner, Morris, 199, 208, 233, 252, 295, 489.  
 Foley, J. G., 98.  
 Fort, F. T., 165.  
 Fowler, W. G., 94.  
 Frank, L. W., 20, 148, 209, 392, 415, 260, 509.  
 Frank, Louis, 188, 139, 247, 360.  
 Frazier, B. C., 12, 486, 208, 233, 526.  
 Freeman, J. K., 410.  
 Fulton, Garvin, 261, 149, 244.
- G
- Githner, J. G., 562.  
 Gardner, W. E., 42, 290.  
 Garrison, D. W., 87.  
 Gernet, E. R., 159.  
 Gossett, W. B., 347.  
 Graves, Stuart, 192, 254.  
 Grant, Owsley, 199, 242.  
 Greenwell, R. H., 110, 510.  
 Grigsby, Guy, 12, 192, 389, 481, 485.
- H
- Ha'e, T. F., 309.  
 Hancock, J. D., 589.  
 Hanes, G. S., 233, 291, 487.  
 Hart, P. A., 49.  
 Harper, C. A., 89.  
 Hays, J. E., 400, 403, 198.  
 Healy, D. J., 547.  
 Heim, J. W., 148.  
 Hendon, G. A., 505.  
 Hoffman, C. G., 37.  
 Holloway, T. C., 495.  
 Horine, E. F., 52, 471, 221, 144, 573.  
 Howard, C. C., 572.  
 Howe, E. A., 557.
- J
- James, H. E., 55.  
 James, W. E., 158.  
 Jefferson, C. W., 36, 38.  
 Jenkins, J. O., 566.  
 Jenkins, W. A., 42, 146.  
 Johnson, Wm., 99.
- K
- Keith, D. Y., 37, 264.  
 Keith, J. P., 204.  
 Kelley, E. R., 86.  
 Kinnaird, V. G., 510.  
 Kirk, J. A., 154.
- L
- Laverty, E. C., 271.  
 Leavell, H. N., 147.  
 Leathers, W. S., 90.  
 Lipscomb, W. M., 570.  
 Long, H. W., 166, 350.  
 Love, T. R., 93.  
 Luckett, G. S., 89.  
 Lukins, J. B., 150.
- M
- Mahaffey, J. A., 49.  
 Marshall, M. Y., 253.  
 Martin, F. W., 110.  
 Martin, F. W., 135.  
 Mason, J. B., 270.  
 Maupin, C. C., 595.  
 Mayo, C. H., 84.  
 Miller, O. O., 180.  
 Miller, O. R., 248.  
 Miner, C. H., 93.
- N
- McReynolds, S. S., 385.  
 Moore, W. B., 50.  
 Monger, J. E., 92.  
 Moren, J. J., 40, 293.  
 Moore, J. W., 394.  
 Morrison, J. R., 232, 251, 294.  
 Mosby, W. L., 285, 594.  
 Moss, W. C., 383.  
 Moss, V. U., 383.  
 McCoy, S. C., 21.  
 McChord, R. C., 187.  
 McCormack, A. T., 423, 525, 586.  
 McClure, D. E., 135.  
 McMurtry, L. S., 54.
- O
- Neblett, L. W., 152.  
 Nettleroth, Alex, 353.
- P
- O'Connor, B. J., 357.  
 Olin, R. M., 90.  
 Owen, Barnett, 250, 480.
- R
- Palmer, E. L., 367, 568.  
 Palmer, E. R., 496, 359.  
 Pfingst, A. O., 11, 168, 214, 259, 277, 571.  
 Pickett, Alice, 33, 139, 419.  
 Pope, Curran, 477.  
 Price, J. W., 11.  
 Pritchett, J. H., 474.  
 Pusey, W. A., 83.
- S
- Rankin, F. W., 195, 236.  
 Rankin, W. S., 88.  
 Reddick, J. T., 49.  
 Richards, B. W., 95.  
 Richmond, W. W., 3.  
 Reynolds, C. W., 301.  
 Robertson, L. L., 54.  
 Rodman, J. J., 110.  
 Rose, B. C., 545.  
 Rose, S. J., 587.  
 Ross, S. J., 38.  
 Russell, J. L., 378.
- T
- Salmon, J. M., 226.  
 Sandbach, W. S., 135.  
 Sanders, P. C., 48.  
 Scott, H. B., 299.  
 Scholl, J. B., 51, 416.  
 Sherman, C. L., 49.  
 Sherrill, J. G., 158, 191, 204, 403, 488, 530.  
 Shively, O. H., 49.  
 Simpson, V. E., 114, 239, 354.  
 Sights, H. P., 100.  
 Solomon, L. L., 43.  
 Speidel, F., 131.  
 Speidel, Edward, 155.  
 Skinner, C., 407, 346.  
 Stewart, A., 52, 170.  
 Stewart, P. H., 478.  
 Stern, W. J., 50.  
 Stevens, E. A., 200, 518.  
 Strickler, F. D., 90.  
 Sternberg, S. A., 409.  
 Slope, W. S., 99.  
 Still, E. R., 85.  
 Stucky, J. A., 469, 542.  
 Sullivan, John, 469.
- U
- Thompson, Cuthbert, 498.  
 Thomasson, W. J., 590.  
 Toll, J. L., 188.  
 Trawick, J. D., 480.  
 Tuley, H. E., 4.  
 Turner, C. C., 50.  
 Twich, R. C., 95.  
 Turner, P. A., 93.
- V
- Vance, C. A., 222.  
 Veech, Annie, 522.
- W
- Warren, E. L., 52.  
 Washburn, L. L., 99.  
 Washburn, B. A., 371.  
 Wathen, J. R., 388, 6, 518, 528.  
 Watkins, S. S., 216, 558.  
 Walters, W. J., 362.  
 Welch, S. W., 92.  
 West, Olin, 419.  
 Whitatch, C. H., 155.  
 Whitford, William, 54.  
 Williams, E. G., 92.  
 Willmott, C. B., 408.  
 Willmoth, A. D., 371.  
 Winans, L. H., 49, 274.  
 Winter, K. D., 45.  
 Wolfe, C. T., 278.  
 Work, Hubert, 83.
- Y
- Young, W. J., 198, 584, 596.
- Z
- Zimmerman, B. F., 392.



# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., JANUARY, 1924

No. 1

## CONTENTS AND DIGEST

### EDITORIAL

GREETINGS .....	1
MEDICAL PRACTICE LAW.....	2
HEALTH VOTES.....	3
DR. RICHMOND.....	3
HENRY E. TULEY.....	4

### ORIGINAL ARTICLES

THE CO-OPERATION OF THE GENERAL PRACTITIONER WITH THE SURGEON, by J. R. Wathen, Louisville .....	6
--	---

ACUTE SEPTIC PHARYNGO-LARYNGITIS, by S. G. Dabney, Louisville.....	7
--	---

DISCUSSIONS by J. W. Price, Jr., A. O. Pfingst, Louis Frank, G. P. Grigsby, B. C. Frazier and in closing the essayist.	
--	--

THE PRESENT TREATMENT OF DIABETES, by R. Hayes Davis, Louisville.....	13
---	----

(Continued on Page V)

## READY---IN SIX VOLUMES

# Bickham's Operative Surgery

THIS is a new and magnificent work—planned with method, executed with precision. It is minute as to detail; it is definite as to procedure; it is inclusive as to scope, covering not only *General Operative Surgery*, but the surgical specialties of *Gynecology*, *Obstetrics*, *Genito-urinary*, and *Orthopedics*, as well as operative surgery of the *Eye*, *Ear*, *Nose*, and *Throat*.

Condensed outlines of the *surgical anatomy* involved in the different regions and organs are given in advance of each part under discussion. These will serve as practical reminders during the progress of the surgical steps.

Most striking are the *illustrations*—the vast majority original and made by a large corps of artists directly and constantly under Bickham's exacting supervision. There are 6375 of these *illustrations*—and they portray the steps in the technic and procedures with impressive clearness.

There will be a comprehensive *General Index*, thoughtfully constructed, with its purpose of quick reference ever in mind. This will be bound in a separate volume. In addition, each volume will have its own index. It will be an easy matter, indeed, to consult *Bickham's "Operative Surgery"*—and to find quickly what you want.

By WARREN STONE BICKHAM, M. D., F. A. C. S., Former Surgeon in Charge of General Surgery, Manhattan State Hospital, New York. Six handsome octavo volumes, totalling about 5400 pages, with 6375 handsome illustrations. Desk Index Volume Free.

W. B. SAUNDERS COMPANY

Philadelphia and London

MEAD'S

## *What's in a Name?*

Whose name is signed to infant feeding instructions in your community—the manufacturer's or yours? You are the doctor.

Does the surgeon dismiss his patient with a broken leg with instructions to obtain some lotion at a drugstore and apply it to the injury? No, not if he is a real surgeon.

Does the family physician instruct the mother of a baby to go to a drugstore and follow the druggist's advice as to the selection of a food for the infant's requirements? No, not if he is a real doctor.

A real doctor writes his feeding formula just as he does any other prescription and changes it from time to time to suit the requirements of the individual infant. His name and reputation are at stake. The baby's nutrition must be considered and possibly its life may be saved by proper food.

### FIRST THOUGHT:

*Breast Milk*

### SECOND THOUGHT:

*Cow's Milk,  
Mead's Dextri Maltose  
---and water.*

The physician who uses Mead's Dextri-Maltose when artificial feeding is necessary controls his case. There is no outside interference and his creative talent has full scope because Dextri-Maltose is supplied without directions on the packages and no advertising to the laity.

An ethical product offered exclusively to the medical profession must have merit. Will you investigate?

*Pamphlet describing methods for prolonging breast milk will be sent to physicians on request.*



## Mead Johnson & Company

EVANSVILLE, INDIANA



# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., JANUARY, 1924

No. 1

## EDITORIAL

### GREETINGS

THE JOURNAL wishes a "Happy New Year" to you, direct, and to every member of your family. We trust this year will bring you much cause for happiness in increased opportunity for service, not only to those who are sick, and therefore need you urgently, but also to the many people of your community who are well and will, therefore, need you no less urgently that they may remain so.

One of the most important movements that has ever been inaugurated really begins with the year 1924. It is sponsored by all the agencies which center in the National Health Council and a real start has been made encouraging the American people to have a physical examination made on their birthdays. The success of this movement depends on you. If you are careful, painstaking and conscientious, it will be a growth that means more to the health of our people and to the ultimate success of our profession as its guardian than any other campaign that ever was started. There will be two classes of examinations that are all wrong. The first is made by the half-baked physician who tells his patient offhand, "I know all about you. You are all right. You don't need any examination. That's all nonsense." The second is made by the superficial doctor who will make more or less of an examination and then go off like an alarm clock and scare his patient over trivial matters without just cause. Fortunately, few of either class are amongst the readers of this JOURNAL, but it is essential to the proper success of a movement of this kind that there be close co-operation in it between the members of the profession in various counties. For this reason, it is important that the matter be discussed at special meetings of county societies. The State Association has arranged for members of the profession who have been especially interested in this movement in various parts of the State to attend county societies to

discuss the matter on invitation. The Secretary of the State Medical Association will arrange for addresses on this subject in any county where it is desired. It will be of advantage to have an afternoon meeting of the county medical society and an evening public meeting to which the profession should invite thoughtful men and women of their communities.

It is important that all routine examinations should include a careful study of the teeth and throat. It has been definitely demonstrated that a majority of the most severe infections which cause invalidism and death come from abscesses of the teeth, from the absorption of toxins from dead teeth which have been crowned, and from infected tonsils. Examination of the chest and heart should always be made with the clothing removed. In the examination of women patients it is particularly recommended that some member of the patient's family should be in attendance, unless the physician has a nurse, or other female attendant in his office, the reasons for which are obvious. Careful vaginal examination should always be made in any woman who has borne children; and should in every case include an examination of the rectum, whether symptoms are referred to it or not. The examination should include the feet, because corns and bunions are relievable and there is no worse source of annoyance. Wassermann specimens should be taken as a routine in every one who is chronically ill. These may be examined in private laboratories, several of the best of which have cards in the JOURNAL, for patients who are able to pay, or they may be sent to the State Health Laboratory at Lexington, where they are examined without cost. In all cases where there is any suspicion of infection; a differential blood count should be made. In Kentucky every patient suffering from chronic illness should have a routine examination for malaria and the intestinal parasites. Containers and directions for taking these specimens may be secured from the State Board of Health in Louisville and these examinations cost nothing. In children there should always

be a routine Schick test. Patients who have not been vaccinated for smallpox should have this done as part of the examination. Those who have not already had typhoid fever should be inoculated for this disease. Typhoid vaccine is furnished free by the State Board of Health to registered physicians. Children, who are found to be non-immunes, should be given the toxin-antitoxin inoculation against diphtheria so that they may be permanently protected from this disease. Conservatism should be the rule in suggesting surgical operation; but this should include the conserving of health. Young people and adults with hernia should be told of the advantages of the radical operation for this miserable condition that they may be relieved of wearing harness through their lives. Those with infected teeth or with pyorrhea should be referred to competent dentists. Where the tonsils are much enlarged or where they show any sign of infection they should be removed completely. Conditions referable to defects of vision should be carefully studied by a registered oculist or optometrist, with view to the proper fitting of glasses or such study of general conditions as are necessary to correct the defect.

Carefully and skillfully made and sympathetically and definitely explained to the patients, systematic physical examination will do more to promote the public health than any other movement which has ever been undertaken by the medical profession.

---

### THE MEDICAL PRACTICE LAW

The physicians of Kentucky have known for many years of the effective protection given to our people by its medical practice laws. It is important at this particular time that the attention of the public should be drawn to them.

Many of our sister states have what is known as multiple boards of examiners. These are appointed by the various schools or systems of medicine for the examination of their disciples and their purpose is to encourage and protect the particular school of practice to which they belong. The principle upon which they are founded is wrong. The State has but one interest in the individual who treats disease or protects public health and that interest is that he be so trained in the institution from which he graduated in the fundamental branches of anatomy, physiology, pathology and public health, that he may receive from his knowledge the proper application of the system of therapeutics which he practices. The General Assembly of Kentucky has constantly adhered to this view since 1888 when it provided that the

State Board of Health should have control of the examination and registration of those practicing the healing art. Anatomy is the geography of the human system. Physiology treats of the functions of the various organs of the body. Pathology is the science which treats of the changes which disease produces in normal anatomy and physiology. Public health includes all those methods which have been devised for the prevention of disease by the preservation of positive health.

Under the Kentucky law, the State Board of Health conducts the examination of every person, of whatever school or system of practice, before they can legally examine any well or treat any sick individual in the State. This examination is the same for graduates of regular schools of medicine or for those who have been trained as homeopaths, eclectics, osteopaths, optometrists, chiropractors, chiropodists, anesthetists, naturopaths, electrotherapeutists, napropaths, mechanotherapeutists, physiotherapists or those who practice suggestive therapeutics. At the same time that they are examined in these fundamental branches, they are also tested for their knowledge of their system of therapeutics by examiners of their particular school. All examinations are conducted by numbers. After the papers are graded and passed on as result of the examination, the identity of the candidate is disclosed. There is no possibility under the law for discrimination either for or against a candidate of any method of practice. Each "tub stands on its own bottom" and the qualified practitioners are welcome in this State regardless of their school or system of practice. After the candidate has successfully passed his examination he is given a certificate entitling him to practice. This certificate is given on condition that he shall not be an itinerant under any circumstances; and every candidate is required, as a part of the contract upon which his certificate is issued, to sign an agreement that he will not make any advertisement or announcement to the public which is false. As every registered physician is similarly qualified under the law, and is presumed under the decisions of our highest courts to be competent, it is unnecessary for any practitioner to make public claims because no one can truthfully claim to offer better treatment than the other members of the healing profession.

The law provides for the revocation of certificates for the commission of criminal abortion, conviction of a felony, fraud in the application for a certificate or in the examination, for failure to record birth and death certificates, for failure to use the nitrate of silver solution, required by law for the pro-



tection of the eyes of newborn babies, for violation of prohibition laws, for chronic inebriety or the use of habit forming drugs, or for other grossly unprofessional conduct of a character likely to deceive or defraud the public.

A number of other states have similar laws, quite a few of them have been copied verbatim from that of Kentucky. In no other state has the law been as effectively and impartially administered. For forty years the late Dr. J. N. McCormack had executive charge of the administration of this law. Every student familiar with the history of the State takes pride in the improved professional conditions that it has brought about. The death rate in Kentucky has been reduced from twenty-eight to ten in a thousand because of the improved qualifications of our medical profession. The life of the average citizen has been extended for fifteen years. No attack on this law has ever been made except by some organized interest which desires to prey on the sick people of the State. No charge has ever been leveled at the administration of the law which has not been shown to be false. In the states having multiple boards all over the country the people are smarting under the exposures through the press that hundreds of incompetent quacks have been licensed by these sectarian boards and have been preying on their people. Outside of Kentucky, the columns of the newspapers are crowded with the advertisement of old doctor this or that who guarantees to cure almost any incurable disease. If those interested will go to the libraries, they will find that before 1888 our papers were similarly disgraced but, since that time, they have been singularly free from these false, misleading and dangerous advertisements. The press of Kentucky deserves great credit for assistance in this cleanup. There is still a certain amount of difficulty in the prosecution of offenders against the medical practice law in our courts, because the people have not been made to understand the necessity for its enforcement for their protection. It is a matter of education and if the members of the profession will bring it to the attention not only of their editors but also of the circuit judges, commonwealth and county attorneys and other leaders of public opinion, there will never be any question but that Kentucky will continue to stand as it has all these years as at least one state which will not permit these ghouls to prey on the people of the Commonwealth.

## HEALTH VOTES

The majority of the newspapers and people of the State have emphasized the political phase of the November election. One of the most significant results of that eventful day, however, was the practically unanimous vote cast in every city and county where health issues were submitted favorable to improved health conditions.

Bowling Green, practically unanimously, approved a bond issue for \$125,000 for building a hospital; Paintsville voted a \$50,000 bond issue for new water works; Russellville, \$60,000 for new water works; Morganfield, \$60,000 for new water supply; Williamsburg, \$50,000 for new water supply; Hazard, \$50,000 for water improvement and for the fire department; Marion \$40,000 for water works.

The only significant failure was the Newport referendum in regard to an improved water supply. Unfortunately, in Newport political conditions are as impure as their present water supply, and the citizens were evidently not informed of the issue in such a way as to command their confidence.

These results of popular votes are most gratifying to those who are interested in improved health conditions in Kentucky. They indicate the sure advance that the health authorities are making in securing the confidence of the public for expenditures which will protect the health and lives of the people. It has been well said that public health is purchasable. As rapidly as we are able to convince our people that this is true, will Kentucky assume its place in the protection of its splendid people.

---

## DR. RICHMOND

Dr. W. W. Richmond is dead. After many years of ill health, during which he retained the natural sweetness of his character and much of the energy and fire of his youth, he is gone.

Born in 1846, graduated from the Medical Department of the University of Louisville in 1874, he has been one of the leading physicians of Kentucky and one of the medical statesmen of the nation since. He was a leader in the re-organization of the old Kentucky State Medical Association at the Paducah session of 1902 when he was elected president. He presided at the Louisville meeting the next year. Since 1902 he has been continuously a delegate to the American Medical Association. He was appointed a member of the State Board of Health in 1912 by a Republican Governor to fill out an unexpired term and has since been reappointed for the third time. He has rarely missed a meeting,

of the Board and has been one of the guiding spirits in its great construction work. Dr. Richmond was president for several years of the Hickman County Medical Society and was, also, president of the Southwestern Kentucky Medical Society. For many years he was the Health Officer of Hickman County and since 1896 was Medical Referee of that County. Dr. Richmond gave up his practice in 1910 and for the next two years was a field agent for the State Board of Health in the campaign for the eradication of hook-worm disease. No other physician in the South did more during this campaign. His last work in this line was done in Edmonson County where he examined more than 90% of the entire population of the County and treated those who were found infected. Dr. Richmond was an ideal Councilor. He was the intimate friend and confessor of every physician in the First District. One of the unique movements which he organized was the annual camp meeting at Reelfoot Lake to which the physicians of the district flocked for a pleasant vacation, combined with the study of clinical cases for post-graduate instruction. Dr. Richmond held public meetings in many parts of his District in which he discussed the poor economic support that was given physicians in the early days and brought about an improved relationship which has kept the First District better supplied with physicians than any other in the State in its rural districts.

Always kindly, a lover of his kind, when aroused by wrong, he was a lion in action. Absolutely fearless, thoroughly self-forgetful, he was the most loyal and devoted friend. He was present throughout the recent session at Crab Orchard and took an active part in the discussions and their activities. Since his return home he had been actively engaged in arousing the public of his District to the threatened attack on the integrity of the Board by designing politicians.

In 1912, Dr. Richmond represented the State Board of Health in the work for the relief of the flood sufferers of the Ohio and Mississippi Rivers and suffered himself greatly from the privation and over-work of that period. On his return to Clinton he suffered a serious attack of dilatation of the heart and for many months his life was despaired of. At three different meetings of the State Medical Association memorial exercises were held for him, the Association having received reports of his impending death and on each of these three occasions he came into the meetings during or shortly after the exercises, and always laughingly said that he had taken part in three post-mortems on his own character, which had helped him to remain modest and fearless.

Thus Dr. Richmond joins the immortals. His history should be known to every man who enters the medical profession of Kentucky. For half a century he has contributed an almost perfect service to his people and to his profession.

To his wife and daughters and grandchildren, who survive him, his memory will always be a benediction.

May his kind increase.

#### HENRY ENOS TULEY

January 11, 1870-October 26, 1923.



Henry Enos Tuley was born in Louisville on January 11th, 1870, the son of Enos S. and Mary Eliza Speed Tuley. He was graduated from the public schools in 1888 and from the University of Louisville Medical Department in 1890, the New York Polyclinic in 1891 and the Kentucky school of Medicine in 1893. During 1891-2 he was resident physician in the New York Infant Asylum and the Sloane Maternity Hospital. There he met Mrs. Ethel Brown Engelbach of East Hampton, Conn., whom he married on June 24th, 1894. During the first five years after entering practice here, 1893-98, he was clinical assistant in medicine and lecturer on physical diagnosis in the Kentucky



School of Medicine. He was appointed Professor of Obstetrics in that school in 1898 and acted as secretary to its faculty. Taking an active part in the combination of the old schools with the Medical Department of the University of Louisville, he became Professor of Obstetrics in the latter in 1913. The next year he succeeded Dr. W. Ed Grant as Dean and became Professor of Pediatrics. These two positions he held until late in the last school year when ill health forced his resignation.

In all matters pertaining to his profession Dr. Tuley took a deep and active interest. For five years, 1917-22, he was Superintendent of the Louisville City Hospital and did more than any other one man to bring it to its present high grade. The Mississippi Valley Medical Society was developed largely under his guidance and for twenty-five years he acted as its secretary, succeeding to the presidency last year. In the organization of the American College of Physicians he was also prominent and was one of its Councilors. He was at one time honored with the chairmanship of the pediatrics section of the American Medical Association.

In Louisville Dr. Tuley's interests were wide spread. In addition to the Medical School and the City Hospital, he was deeply interested in civic and professional affairs. For many years he visited regularly the Masonic Widows' and Orphans' Home and was a member of the Norton Memorial Infirmary Staff. He was formerly president of the Louisville Medico-Chirurgical Society and president of the Louisville Commercial Club. He was also formerly president of the Louisville Automobile Club and was made an honorary life member when he resigned about two years ago. In the Pendennis and Louisville Country Clubs he was a familiar figure. Up to the summer of his acute illness he visited the golf course frequently and organized the Louisville Physicians Golf League, of which he was the first president. In Masonry he took an active interest and was a member of Falls City Lodge, F. & A. M.; King Solomon Chapter, Royal Arch Masons; Louisville Commandery, Knights Templar; Kosair Temple, Ancient Arabic Order of Nobles of Mystic Shrine.

As a teacher and writer Dr. Tuley was best known in pediatrics and obstetrics. His first book was on Obstetrical Nursing in 1902, a second edition of which was printed in 1912. In 1904 his Textbook of Pediatrics was published by Mosby and a second edition was put out in 1913. His papers appeared frequently in current publications.

As an obstetrician and physician Dr. Tuley was skilled and conscientious. His patients

were devoted to him and he to them. He inspired confidence and held it. A ready smile and a hearty greeting brought comfort to the sick and cheer to the healthy. He left a host of friends to mourn the loss of his companionship as well as his skill.

Dr. Tuley's greatest work was in the Medical School and the Louisville City Hospital. Coming into leadership in those institutions soon after the amalgamation, with comparatively limited financial resources, he labored patiently, faithfully, effectively. He ever took a personal interest in the students and was kind almost to the point of indulgence, but his sense of honor in professional affairs would never permit of any compromise with a student detected in unprofessional conduct. Under his leadership the School progressed steadily and the University will forever be indebted to him for his guiding devotion during a critical period in its history.

---

**Experimental Study of Chologogues.**—Specht's chart of the findings in dogs, with a fistula in the common bile duct, under the influence of various alleged chologogues confirm their possible efficiency, although wide racial and individual differences were manifest. His research demonstrated that secretion of bile and urine proceeded entirely independently. Even extreme fluctuations in the amount, specific gravity and sodium chlorid content of the urine occur without being reflected in the bile secretion. None of the alleged chologogues such as Carlsbad salts, Liebig's meat extract, and agar, had any appreciable influence on bile secretion in his experiments; and sodium salicylate only in amounts that impaired the general health. The bile itself, or its elements, by mouth or injected subcutaneously or by the vein, was the one substance found effective in increasing the flow of bile. The question now is to find the combination of these elements and the dosage which will induce the maximal effect with the minimal depressing influence on the heart action and destructive action on the blood corpuscles. We must test the biliary acids, alone or in combination, on patients after cholecystectomy.

---

**Physiologic Principles in Treatment of Infantile Paralysis.**—Biesalski emphasizes among other points that the action of a muscle is entirely different with a normal and a crippled joint, and the points to which electricity can be applied with benefit are liable to be entirely different. The usual points may be inert, but remarkable improvement follows stimulation of the special individual points. He urges study of orthopedic physiology to realize physiologic orthopedics, and hails the important works of Murk Jansen, Lange, Spitzzy, Putti and others in this line as remarkably encouraging.

## ORIGINAL ARTICLES

### THE CO-OPERATION OF THE GENERAL PRACTITIONER WITH THE SURGEON.\*

By JOHN R. WATHEN, Louisville

The practice of operative surgery in our large clinical centers has reached such a stage of perfection in technique and such a reduction in mortality following operations that we should feel well satisfied with the present progress and seek elsewhere if we wish to still further benefit the public by surgical methods.

In selecting this subject, I have had in mind the better preparation and more careful study of our patients, before advising surgical measures, and also last, but not the least, the proper care of our cases after operations.

When we speak of co-operation in medicine and surgery we open up a large field for discussion. Group medicine as it is now styled has its advocates and its opponents and much could be said with truth on both sides of this question. These problems are before us today and time only will solve them.

Billings of Chicago has recently written:—"The time has come for plain statements in regard to modern medical practice, with the purpose of bringing the public and the members of the medical profession as a whole back to good common sense views."

Whether the good old "Family Doctor," who through the long years has been so highly esteemed, is to continue, I believe remains with himself to determine.

Barker, of Baltimore has written:—"The most independent and resourceful of general practitioners can no longer satisfactorily carry out by himself all the tests that may be necessary in the study of an obscure case."—"They may have their laboratory tests made for them by others; or they may send their patients to the roentgenologist for x-ray examinations. They recognize, too, the advantage of, at least, an occasional consultation with one or more of the specialists who limit their activities to particular domains."

Group medicine has never made a very strong impression in the city of Louisville, largely for the reason that in a perfected organization of this sort, more than one prominent and able man is needed to obtain the best results. One well known and outstanding clinician, associating with himself several younger men of less experience, cannot make a group which will command the prestige and render the service that should be required of such an organization.

In our city we are happily so situated that any one man desiring the further aid of consultation can, almost in the same large building in which he happens to be located, obtain such aid from the specialists and the laboratories and thus take advantage of practically all the benefits which would accrue from any form of group medicine. Not only can these cases for diagnosis be examined and reported upon, but they can be examined by the leading men in their respective fields and by men who see more of such cases than ordinarily would occur in any one small group.

One very great objection to group medicine is that it is time consuming and expensive. If a patient presents himself with some easily recognized disease it is seldom that a long and expensive routine examination is needed, but those cases where there is the least element of doubt should be thoroughly examined.

It is now, thanks to the American College of Surgeons and the American College of Physicians, the custom in all our large hospitals of Louisville to require a carefully written history of each case, a routine blood and urine examination and whatever else in the way of analysis needed, to be filed with the hospital. A working diagnosis is required to be recorded before operations are performed.

The history taking has been a great aid to us all, not only as a record but as a real aid in the study of our cases and of great value for future reference.

In private practice also it has been generally adopted and I believe if the average doctor located in the country districts could be induced to see its advantages, he would soon appreciate its value and what a wonderful aid it would be for us surgeons to have a case referred to us with a complete written history of his case. The family physician sees the disease in its earlier stages and his observations, supplemented by the surgeon's examination and the laboratory findings would by this well directed co-operation render a valued service to the patient. Of course emergency cases like acute appendicitis, intestinal obstruction and similar conditions demand immediate attention and do not admit of careful preparation and study, but most surgical cases would be better off if they were better studied and prepared by the family physician before the surgeon sees them. It is only too often that the surgeon receives a long distance call over the phone that the family physician is on his way to the city with a case of gall-bladder disease, a fibroid tumor or some such condition and expects to arrive late in the afternoon or night and expects the surgeon to operate early the next morning in order to

\*Read before the Muldaugh Hill Medical Society.



allow him to return home at his earliest convenience. These cases are not emergency and should be more carefully studied and prepared, better histories obtained and often laboratory data obtained before operation, if we expect to further reduce the mortality following major surgery and render our patients all the benefits of modern medicine. How often do we find that no urinalysis has ever been made and no blood pressure ever been taken in such cases.

If most of these cases were sent to the surgeon with an acute history several days before the operation in order to be carefully studied and prepared, the surgeon could then notify the family physician and have him present on the day of operation and with no loss of time to the patient's physician.

The after treatment of surgical cases is probably the most neglected subject in medicine, and accounts for most of the bad results following operations. The surgeon should always insist that the patient should return to his family physician and remain under his care for many weeks after the operation in order that no complications occur and that the best results are obtained.

In this way post-operative hernias are usually prevented, and better results following gall-bladder and gastric and duodenal ulcers obtained. Gastro-enterostomy does not immediately cure an ulcer of the duodenum, it only paves the way for proper medical treatment as the regulation of diet, the administration of alkalies and other valued aids to cure.

No surgical condition is ever absolutely cured by the mechanics of an operation; the patient is only started on the proper road to recovery and time, medicine and care are needed to complete the result.

It is only by the closer co-operation between surgeons and physicians and a better appreciation of such by the patients, that real progress can be made, and I venture to predict that in the near future the public which is fast becoming better educated in all matters of health will sooner or later demand of us all the best possible service, which means in a surgical sense the lowest mortality and the best end results.

**Mechanism of Blood Grouping.**—Vorschutz argues that the albumin content of blood cells determines agglutination and grouping and the speed of sedimentation. His research on horse, beef, swine and sheep blood sustains this assumption, as also study of three cases of pernicious anemia and several of bronchitis. The more rapid the sedimentation, the greater the content of albumin in the cells.

## ACUTE SEPTIC PHARYNGO-LARYNGITIS.\*

By SAMUEL G. DABNEY, Louisville

"The morning of December 12th, 1799, was cold and overcast along the banks of the Potomac, but General Washington after finishing a letter to Hamilton approving of the founding of a military academy, mounted his horse and rode off for his usual round of duties. He noted in his diary that it began to snow about ten o'clock, soon after to hail and then turned to a cold rain. He was out about two hours, and on his return his secretary, Lear, noticed his hair was damp with snow. Next morning snow was still falling and he did not go for his usual ride. He complained of some sore throat, but went out in the afternoon to mark some trees that were to be cut down.

His hoarseness increased toward night, yet he made light of it and read the newspapers and chatted with Mrs. Washington. In the night he had a severe chill followed by difficulty in breathing and between two and three o'clock woke Mrs. Washington, but would not allow her to get up and call a servant lest she should take cold.

At daybreak Mr. Lear was summoned and found Washington breathing with difficulty and hardly able to speak. Dr. Craik, the friend and companion of many years, was sent for at once and meantime the General was bled slightly by one of the overseers. A futile effort was made to gargle his throat and external applications were tried without giving relief. Dr. Craik arrived (from Alexandria) with two other physicians between eight and nine o'clock when other remedies were tried and the patient was bled again without relief. About half past four he called Mrs. Washington to his bedside and asked her to get two wills from his desk. After looking them over he ordered one to be destroyed and gave her the other to keep. He said to Lear, "I find I am going, my breath cannot last long," and gave a few directions as to matters he wished attended to. He asked Lear if he recollected anything else it was essential for him to do. Lear replied that he could recollect nothing, Washington smiled and said that he was certainly dying and he looked to the event with perfect resignation. To Dr. Craik he said, "I die hard, but I am not afraid to go, I thank you for your attentions. I cannot last long." About ten o'clock he spoke again to Lear with desperate effort, "I am just going, he said, have me decently buried and do not let my body be put into the vault in less than three days after I am dead."

\*Read before the Louisville Medico-Chirurgical Society.

A little later he felt his own pulse and as he was counting the strokes, Lear saw his countenance change, his hand dropped back from the wrist he was holding and all was over. Washington was dead. He had faced life with a calm, high victorious spirit. So did he face death and the unknown, when Fate knocked at the door."

In a letter to Senator Lodge from whose biography of Washington the above account is taken, Dr. F. H. Hooper, of Boston expressed the opinion that Washington died of acute adenomatous laryngitis and that his life would probably have been saved by tracheotomy. When we recall, however, that Washington was 67 years old and that in many of these cases tracheotomy is followed by pneumonia, even with this operation the outcome would have been very doubtful.

The classification and nomenclature of acute septic pharyngo-laryngitis are subject to much variation by different authors. In three textbooks which appeared in 1922, Coakley describes it under the title of Pharyngopharyngeal Cellulitis and Abscess, Phillips as two separate diseases Acute Edematous Laryngitis and Acute Infections Pharyngitis, though emphasizing the fact that the former is usually a complication of the latter affection, and Dan McKenzie uses the name Septicemic Pharyngo-Tonsillitis which appears less descriptive than Pharyngo-Laryngitis, the laryngeal involvement being both very common and very dangerous. Perhaps from a scientific standpoint St. Clair Thompson's title is best "Acute Septic Inflammation of the Throat," which includes a large number of affections due to varying degrees of virulence of the pathogenic organism, as was first described by Sir Felix Semon.

From the practical standpoint Dan McKenzie sums up wisely in describing it as a severe infection, affecting sometimes the pharynx, sometimes the larynx, and sometimes the cervical cellular tissue, but generally affecting all in more or less degree. McKenzie, however, seems to me in error when he speaks of Ludwig's angina as being the popular name for this disease. Genuine Ludwig's angina is indeed an acute infectious disease of the throat, but it has certain characteristics which put it in a class to itself. There is a hard brawny swelling in the floor of the mouth, often pushing the tongue upward, and in the submaxillary region. As Thompson says, it is well defined, does not pit on pressure, and is of wood-like induration. Examination of the neck may reveal a brawny infiltration. Metastatic abscesses are rare. In one case, referred to below, the swelling seemed like an enormous, tense collar around the neck from the chin to the chest. Albumin-

uria is common and the disease may extend to the mediastinum. Less rare than this and yet uncommon are the types I have described as pharyngo-laryngitis and cellulitis of the neck. The streptococcus is the usual exciting organism, and the disease may appear either with or without preceding operation or traumatism; fortunately rather rare, "it is characterized by its rapid sometimes deceptive and frequently fatal course."

My own experience agrees with that of Coakley that there are two varieties; one resembling erysipelas and without pus, and the other attended by abscess formation—often deep. The onset is sudden, frequently with a chill and in non-operative cases it may follow tonsillitis.

The temperature is elevated and sometimes subject to marked septic fluctuation. Most authors describe intense pain, especially in the lateral region of the pharynx, where infection often occurs, as among the earlier symptoms, but Dan McKenzie says the disease is remarkably free from pain. This difference of opinion is probably due to different types under discussion. A mild infiltration of the pharynx even with dangerous laryngeal edema may be attended with little pain. All agree that in the severer forms of pharyngeal involvement there is great swelling of the pharynx with dark red congestion, edema of the uvula, often intense, and in many cases rapidly developing edema of the epiglottis and aryepiglottic folds, with alarming dyspnea. And yet with the local picture so striking, the chief danger after all is from the violent septic poisoning. Deglutition is difficult from the involvement of the pharynx and sometimes from the laryngitis. One of my patients as mentioned below had to be fed in the intubation position. There is usually some swelling in the cervical tissue, a deep-seated infiltration, and rarely an abscess. The cervical cellulitis may be the most marked symptom. The course is often rapid; death may occur in twelve hours and in severe cases the patients may practically recover in a few days, but cervical cellulitis runs a slower course.

*Treatment:* In mild cases a calomel purge and codein and aspirin, or if there is any depression, codein alone may be sufficient internal treatment. Locally, an ice-bag to the neck and astringent applications to the throat are beneficial. If there is much secretion and difficulty in removing it, irrigating the throat with hot saline solution is most effective. Indeed, I may say in passing, that this irrigation used with the fountain syringe, the tip being carried well back to the base of the tongue, is in my hands the most useful procedure in those types of sore throat, such as quinsy and phlegmonous inflammation, with



swelling and tenacious secretion. I do not remember ever having seen it described in text-book or journal.

In all cases where the slightest evidence of edema of the larynx is manifest, the closest observation should be kept. Where the edema is sufficient to interfere with breathing, the patient should not be left until this condition is relieved. As regards scarifying the larynx the recent textbooks differ. Thus Phillips says "scarification should be done without delay"; St. Clair Thompson says simply "the edematous uvula and larynx might be scarified with a guarded laryngeal knife"; Dan McKenzie does not mention it, and Coakley regards it as not only useless but harmful as making new avenues for infection. My own experience agrees with that of Phillips. I feel sure that in several instances, a few of which are detailed below, I have averted tracheotomy by prompt scarification of the epiglottis and aryepiglottic folds. This procedure should not be long delayed and may have to be repeated once or twice. Though the application of cocaine and adrenalin are suggested by many authors, my conviction is that they would be useless except that cocaine should be applied before scarifying. Intubation would appear to me utterly useless, if not injurious, as the swollen epiglottis would cover the tube. If the dyspnea continues preparations should be made for an immediate tracheotomy, though Coakley declares that "owing to the virulent character of infection few of such cases on whom tracheotomy is done escape a fatal septic pneumonia." In the graver forms of the disease, even with marked laryngeal edema, the danger is chiefly from profound sepsis. All are agreed as to the need of stimulants (whisky or brandy and strychnia) and nourishing food, but in regard to antistreptococcal serum; Phillips says simply it has been recommended; Coakley does not mention it; while Dan McKenzie mentions it first in his treatment and says 25 c.c. should be given as soon as diagnosis is made and repeated every twenty-four hours if necessary; and St. Clair Thompson says "20 c.c. should be given as early as possible and repeated in twenty-four hours if necessary." I have used it in only one case, but the recovery in that case was so rapid that I would certainly use it again and do so promptly. In those cases where the chief symptom is brawny cellulitis of the neck the indication is for deep incisions, and for this work I have called to my assistance my general surgical friends, as I have also done in deep-seated cervical abscesses as mentioned in one case below.

The following cases illustrate some of the milder and some of the graver types of acute septic pharyngo-laryngitis; four of them oc-

curing without preceding operative measures, one following extraction of a tooth (genuine and fatal Ludwig's angina), and one following tonsillectomy with rapid recovery. It will be observed that I have not availed myself of laboratory examination in any of these cases. I have felt that the clinical diagnosis was sufficient and that the indications for treatment were so urgent that laboratory tests would not be of great practical value.

(1) Mrs. X., aged about 50, had had some sore throat and pain in swallowing for a day or two and in the past few hours her breathing was becoming rapidly more difficult. Her temperature was a little over 100 degrees F., and her pulse rather quick. There was slight swelling in the neck, a moderate tonsillitis with some swelling in the adjacent pharynx and well marked though not extreme edema of the epiglottis and aryepiglottic folds. A purgative was administered, an ice-bag applied to the neck and several rather free punctures made in the epiglottis and folds with the concealed laryngeal knife. Improvement was prompt and continuous. I saw her several times during the night and by the next morning she was relieved and in a few days well.

(2) A man about 60 had had slight sore throat for a few days and some hours before I was called his breathing began getting rapidly more difficult. There was no swelling in the neck. The pharynx was only slightly inflamed but the epiglottic and aryepiglottic folds were decidedly edematous and presented more the appearance of phlegmonous inflammation than in the preceding case. A laxative was administered, cold applications made to the neck and the larynx was freely scarified. Improvement in respiration was prompt and continuous, but for a day or two there was such tendency for fluids to go into the larynx on swallowing that it was necessary to feed him in the intubation position—his head hanging over the bed. He was well in five or six days.

(3) Miss X., a rather delicate lady of about 55, had a decided tonsillitis with some swelling of the adjacent pharynx, there was decided swelling in the neck on the left side. There was much pain; temperature 101 degrees F., and a very slight swelling in one aryepiglottic fold. A cold compress was made to the neck and a sedative given for the pain. I directed the trained nurse to watch her breathing with care and to call me, immediately if it became difficult. I did not get the message promptly and on reaching my home some hours later was told to go see Miss X. at once. I found the patient breathing with great difficulty and the swelling in the neck decidedly increased. I could detect no fluctuation but suggested consultation with a

general surgeon and she requested that Dr. Irvin Abell be called. Her temperature was now over 102 degrees F., and there was much distress in her appearance. Dr. Abell arrived in a few minutes and agreed with me, as to the urgency of the case. She was taken at once to the infirmary and preparations made for an immediate tracheotomy if intra-laryngeal measures did not relieve her. I freely scarified the epiglottis and folds and improvement in breathing was soon apparent.

I remained with the patient all night and twice during the night repeated the scarification. By morning her breathing was easy and her progress toward recovery was uninterrupted except that a few days later an abscess in the neck was opened by Dr. Abell.

(4) Mr. Y., an unusually vigorous man in the prime of life, had a history of preceding tonsillitis and in the last day or two great pain in the region of the larynx on one side and much swelling of the neck. Examination showed an abscess in the lateral wall of the pharynx opposite the pyriform fossa of the left side, pushing the larynx slightly to the right. I evacuated one or two tablespoonfuls of pus from this which gave partial but not complete relief. The swelling in the neck continued. Some days later Dr. Ellis Duncan after a deep incision opened a deep cervical abscess. On irrigating this the fluid would come into the throat through the incision I had made into the pharynx. The man was at the infirmary for several weeks, but made a perfect recovery.

It will be seen that two of these four cases had abscess formation and two did not as described by Coakley.

(5) Many years ago I saw in consultation with Drs. Cartledge and Warner (both now deceased) Dr. G., about 65 years of age. Five or six days previously he had had a tooth pulled and some days after this began having swelling in the floor of the mouth and neck with great difficulty in swallowing and great prostration. The symptoms had grown steadily worse. When I saw him there was a tense, hard, brawny swelling extending around his neck like a collar; the tongue was pushed upward by the hard swelling in the floor of the mouth; the pharynx was swollen and somewhat edematous; deglutition was difficult but there was very little trouble in breathing. Ice applications were made to the neck, astringents to the pharynx and strychnia given hypodermically at frequent intervals. In a day or two after I saw him he died. Dr. Cartledge had made incisions in the neck, looking for pus. With our modern knowledge these incisions would have been made more promptly and more deeply in the cellular tissue and antistreptococcic serum given regard-

less of pus. Death was from exhaustion. This was a genuine case of Ludwig's angina.

I saw in consultation about six hours before death another fatal case, but in my opinion not a Ludwig's angina. The patient was also about 65, very large and flabby, and had had some sore throat followed in the last few days by great swelling of the neck and difficulty in swallowing. There was edema of the uvula and adjacent pharynx and some edema of the larynx though not enough to cause distress in breathing. As already stated he died of exhaustion a few hours after I saw him.

(6) Mr. X., aged about 38, had tonsillectomy under local anesthesia Tuesday at 8 A. M. Operation was painless and not difficult, the tonsils being firm. There was a good deal of foul secretion in them but not more than is often seen. I had cleaned them out several times in the week before operating, the patient had scrubbed his teeth several times daily, and used frequently a cleansing mouth wash.

About 6 A. M., on Friday, three days after the operation, Mrs. X. telephoned me that her husband was suffering greatly and asked that I come at once to see him. I found some swelling of the uvula and of the pharynx around the right tonsillar region. There was slight induration in the neck of the same side, but except for the pain the symptoms did not seem very severe. Morphia was given for pain. About 2 P. M., of the same day Mrs. X. telephoned me that he was much worse, suffering great pain and the swelling in the neck had rapidly increased.

I saw him about 3:30 that afternoon. His temperature was 102 degrees F., and pulse rather quick. The pain in the throat was still intense and deglutition difficult. There was well marked and rather deep infiltration of the neck on the affected side; great swelling on this side of the pharynx, dark dusky red in color, pushing the enormously edematous uvula toward the opposite side; there was very slight inflammation in the larynx but no difficulty in breathing.

A laxative was immediately given (salts) and patient taken to hospital. The throat was irrigated every two hours with hot normal saline; a nice-bag applied to the neck, 1/40th gr. strychnia given hypodermically every five hours and a tablespoonful of whiskey given in milk every three hours; 20 c.c. of antistreptococcic serum was given that evening. Dr. Louis Frank saw him in consultation with me and agreed with these measures and suggested proctoclysis by Murphy method with glucose and sodium citrate solution.

The local and internal measures were so timed as to give the patient two or three hours rest between them. He experienced the greatest relief from the hot saline irrigations. His



recovery was almost dramatic in its rapidity; in three days it seemed hard to believe it was the same throat.

### DISCUSSION

**John W. Price, Jr.:** As stated by Dr. Dabney in his paper I had the privilege of seeing several of his patients, and all of them had infections in the neck, in the floor of the mouth, etc., in some of them the infection extended from the inferior maxillary to the clavicle and from the sterno-mastoid on one side to the sterno-mastoid on the other. When these patients consult the surgeon immediate surgical relief must be given them delays are dangerous. The infection spreads rapidly and when it gets into the tissues of the neck edema develops, cellulitis extends, and if multiple incisions are not made to afford free drainage, passing rubber tubes from one incision to another, one might as well not operate. The operation has to be performed promptly and thoroughly to insure good results.

Practically all the patients I have seen with cellulitis of the tissues of the neck have had an associated pharyngo-laryngitis. Whether the latter is primary or secondary is unimportant as the treatment is the same. Some of these cases follow infection from toothroot abscess, some follow abrasions of the tongue, etc. I have seen one case due to injury of the lip during removal of a foreign body from the throat, the case being thus purely traumatic in origin.

In typical Ludwig's angina rarely is there pus formation. When the infection extends to the stage of pus formation I usually consider that it is not one of Ludwig's angina. Ludwig, in his original description of the disease bearing his name, stated that pus did not form because there was no destruction of tissues but simply cellulitis and edema. In some cases, however, pus is present, and according to my experience is found in two places, that it is due to disintegration of lymphatic glands near the submaxillary glands, or of lymphatic glands in the submental region. In regard to the glands about the submaxillary glands: there are usually three of these glands, one is posterior, one is anterior, and the other above or beneath the submaxillary. Some of the textbooks on anatomy describe a lymphatic gland as being completely within the salivary gland itself. Therefore in operating on these cases if pus is found it is necessary to extend the incision and if possible expose or incise all these various lymphatic glands, not simply being satisfied with a superficial incision which liberates the pus. It has been my invariable practice to make my incisions sufficiently wide and deep to get the entire group of submaxillary lymphatic glands exposed. In doing this the facial artery is occasionally divided. I had this happen to me on one occasion, but as a rule the artery can be avoided. As is well known the facial artery lies just an-

terior to the masseter muscle and with proper precautions it is seldom injured during the operation. If the facial vein is divided it must be grasped with forceps promptly otherwise severe hemorrhage will occur. As will be recalled this vein empties into the internal jugular vein, and it also has a communicating branch to the external jugular vein. Unless injury to the facial vein is promptly controlled hemorrhage is likely to be considerable.

The after-treatment of these cases consists of irrigations with saline solution. I generally use the hypertonic salt solution described by Wright which prevents coagulation of blood and lymph. The dressings are always kept soft as there is a continuous discharge of fluid. The result has been favorable in practically all the cases I have seen.

**Adolph O. Pfingst:** I was quite interested in Dr. Dabney's historical remarks concerning the death of George Washington. I well remember that as a school boy I was taught that Washington had died of quinsy and hence I have always been under the impression that he must have had edema of the larynx, secondary to a peritonsillar abscess.

Cases such as Dr. Dabney has described are most distressing as anyone can testify who has seen them. The edema around the cords causes the voice to be husky, the respiration to be extremely difficult and the patient to assume a most anxious or apprehensive look.

The pathology in these cases has always been interesting to me. When one looks at a healthy epiglottis which appears almost like naked cartilage it is difficult to understand where the tissue comes from to create so much swelling.

I have not seen as many of these cases as Dr. Dabney but in those coming under my observation while I was still practicing laryngology I was never able to do very much good by the method of scarification Dr. Dabney described. The cellular tissue is made up of so many microscopic shapes that punctures do not seem to let out any of the infiltrated serum. The same thing is true in chemosis of the conjunctiva as we see it in gonorrheal ophthalmia where scarification or multiple puncture is of little or no avail. I would emphasize the importance of early and rapid catharsis. I recall one case in which death from strangulation seemed imminent in which croton oil was given to induce rapid catharsis with a most happy result. Benefit is usually derived from irrigation with hot water or the use of steam.

**Louis Frank:** In the one case I saw with Dr. Dabney in consultation anti-streptococcic serum was administered. Personally I thought while it might not do very much good, neither Dr. Dabney nor myself believed it would be harmful to the patient. Under this method of management, to-

gether with frequent hot irrigations—which I think probably did the most good—and by elimination which was promoted through purgation, and overloading the patient with water administered by the rectum, rapid improvement occurred. I saw the patient the following day and he was decidedly better. Dr. Dabney telephoned me to stop and see him the next day and he had left the hospital.

I am positive this man had streptococcal infection notwithstanding the fact that no bacteriological study was made. The clinical picture was typical of this type of infection. The odor and appearance of the part where the tonsil had been removed were characteristic, also the rapidly progressive infiltration and edema of the tissues present were typical of this type of infection.

I have seen a number of cases of Ludwig's angina, also several with swelling and edema of the throat. In all the Ludwig cases recovery ensued with one exception under deep multiple incisions. Superficial incisions or scarification are of no value whatever in such cases.

In my experience with these cases I have never seen any that progressed to the stage of suppuration. The reason is that the patient usually dies or recovers before the stage is reached where pus formation occurs. I have had to perform tracheotomy on several patients, and under such circumstances pneumonia is a factor which must be considered. In one case the patient died very quickly from pneumonia following tracheotomy. I have also seen several patients who had abscesses, but I hardly think these belong to the same group as Ludwig's angina. The patients had tremendous edema of the neck which progressed to abscess formation. Personally I question whether the case reported by Dr. Dabney was true Ludwig's angina, because the clinical pictures of this disease I have seen were not the same. I have seen marked cellulitis of the deeper structures of the neck, some with widespread infection where death occurred from rupture of a tremendous abscess. I saw one death of this kind on the operating table in the hospital and another occurred in a patient who was not in the hospital.

These are cases which require very prompt and energetic treatment, i. e., what we are going to do should be done at once. I am inclined to think, notwithstanding the fact Dr. Dabney has had good results from scarification, that if we are going to do anything in the throat it should be more than simple scarification; deep incisions should be made into the infected areas. I do not see any danger in deeply incising the infected tissues in cases of the type reported.

**Guy P. Grigsby:** I have under observation in the hospital now a patient who has deep cervical cellulitis and throat infection. He has had some edema of the larynx because his voice has been

husky for a day or two and he has also had some difficulty in swallowing.

Dr. Dabney spoke of the use of hot saline solution. I have used this in addition to hot applications externally. By the liberal use of hot water, internally by irrigation and externally by local application, spread of the infection is lessened and localization hastened. The throat should be frequently irrigated with hot saline solution and large local applications of heat made. This method of treatment requires that someone be constantly present as the external applications of heat to be effective must be changed every few minutes. Under this plan in many instances the infection will be localized and the distressing symptoms overcome without the necessity of multiple incisions.

In the case I have mentioned the conditions looked threatening when I first saw the patient, but under the treatment described with a special nurse in constant attendance marked improvement occurred within twenty-four hours. Recovery soon became complete and I attribute the good result to the application of heat.

Deep multiple incisions are indicated where the symptoms are progressive despite the application of less heroic measures.

**Ben Carlos Frazier:** Dr. Dabney stated that so far as he knew irrigation of the throat with hot saline solution was not described in any textbook. This seems strange to me as much irrigations have been in use for many years. This method has been productive of greater benefit in cases such as described by Dr. Dabney than any other treatment I have ever used. Hot irrigations may be made continuously if necessary with a fountain syringe placed at the proper height. Rapid elimination by purging is also of benefit.

Dr. Dabney in his paper mentioned the use of calomel for purging the patient: In my opinion this drug is too slow in its action, and some of the more drastic preparations or salines should be used in cases such as he has reported.

**S. G. Dabney (closing):** I have greatly enjoyed the discussion and the criticism offered by the speakers. I do not recall having seen in any textbook or medical journal a description of throat irrigations with hot saline solution. The first time I saw it used was in the Willard-Parker Hospital, New York, in the treatment of diphtheria; that was about twenty years ago. The method impressed me very favorably and I have used it ever since.

In regard to scarification: I expect I used the wrong word in my paper; perhaps I should have said multiple incisions. The surface was not merely scraped, as indicated by the term scarification, but incisions were made with the laryngeal knife the blade of which is nearly one inch in length. The tissues were incised to the



depth of at least half an inch, and several incisions were made. Coakley says incisions do harm rather than good; but my experience agrees with that of Phillips as to their benefit.

As to the administration of anti-streptococcic serum: McKenzie places this first in the list of remedies, and Thompson says the same thing. These writers do not mention having had any trouble from it, and they have had greater experience than the majority of us. I do not know whether it does any good or not.

When there is extensive cellulitis of the tissues about the neck and external incisions are necessary I have always called a general surgeon to my assistance, not feeling that my knowledge of regional anatomy was sufficient to enable me to successfully manipulate a knife in making deep incisions about the neck.

I did refer to calomel as a purge in cases such as those being discussed, but also mentioned several other agents. Personally it is my custom to give large doses of salts repeated as often as may be necessary to secure the desired results. I appreciate fully that in the cases reported several therapeutic measures were employed and it is therefore difficult to say which remedy was the most useful. I believe the infection was due to the streptococcus in the majority of the cases. It does not seem to me that much would be gained, and valuable time would certainly be lost, in waiting to get a report from the laboratory. Within a few hours after I had first seen one of the patients his wife telephoned that he was much worse. I am confident he had streptococcic infection of the pharynx. So far as I know there is nothing else which will produce such rapid changes. It was this case in which the anti-streptococcic serum was administered. I was sorry to hear Dr. Meyers say what he did about this serum. But I would still feel like using it again under similar circumstances.

**Liver Functioning and Duodenal and Gastric Secretion with Disease of the Bile Ducts.**—Duttman's research sustains the reliability of the Widal, Rosenthal, von Falkenhause and Falta's functional liver tests. It confirms further the depressing influence on gastric secretion of disease in the biliary passages. Irreparable hypacidity and hypochlorhydria are entailed by inflammation in the biliary passages, and they persist in more than 50 per cent. of the patients after the operation. The duration of the inflammation and its degree are reflected in the intensity of the secretory deficit in the stomach. As the inflammation generally persists after internal or conservative surgical measures, the effect on gastric secretion keeps up unmodified. Hence the effort to relieve without removing the gallbladder has no justification, so far as the stomach is concerned.

## THE PRESENT TREATMENT OF DIABETES\*

By R. HAYES DAVIS, Louisville

Since the introduction of Insulin the advance in the treatment of diabetes has been so great, and results which have been obtained have been so universally satisfactory that it is hard to realize that only a short time ago it was necessary to subject a goodly proportion of diabetic sufferers to the starvation and low diet treatment with too often then a steady lessening of tolerance with a steady progress to a fatal termination. This treatment with its many failures, however, was so far superior to all other treatments that had gone before that its results were remarkable. Now that Insulin as an aid the results have surpassed all expectations. How fortunate is the diabetic who has his malady now instead of only a short time previously!

It will not be amiss before considering the management of diabetics to review very briefly just what is meant by diabetes. Diabetes is simply a defect in the body which prevents it from utilizing as much glucose as can be utilized by a normal body. Most diabetics can utilize a certain amount of glucose but they cannot take care of any glucose in excess of this limit. The proper metabolising of glucose depends upon the highly selective functions of the Islands of Langerhans in the pancreas which produce an internal secretion capable of producing normal carbohydrate metabolism. Insulin is the active principle of these cells, and the artificial Insulin or the American product Iletin, which is made by Eli Lilly & Company, is derived from the pancreatic glands of animals and for commercial purposes from slaughtered swine. Since diabetics can utilize only a limited quantity of carbohydrate their diet must be so arranged they they do not receive more carbohydrate than they can take care of, and since their fat can not be increased beyond a certain definite limit without serious consequences, their caloric intake must of necessity be low if the carbohydrate tolerance is low, and the body as a result must suffer from insufficient nourishment. With Insulin the carbohydrate utilization can be greatly increased and within reasonable limits the caloric intake can be elevated to the needs of the individual.

When carbohydrates are introduced into the body they are converted wholly into glucose, and in normal individuals they are subsequently burned into carbon

\*Read before the Jefferson County Medical Society.

dioxide and water. The protein of the diet meets a different fate. This is broken up into amino-acids: a part builds up the tissue cells; a part may be converted into the higher fatty acids (on an average of about 46%); and about 58% is converted into Lactic Acid which may be converted back into glucose if the metabolism is perverted. Of the fats 10% becomes Glycerol, and this is converted into Lactic Acid, and 90% is changed into Diacetic Acid. The fatty acids are burned in the fire of glucose, as it were, in the definite proportion of one molecule of fatty acids to one molecule of glucose. Since the molecular weight of glucose is 180 and the average weight of fatty acids 270, then the ratio if expressed in grams is 1.5 gm. of higher fatty acids to 1 gm. of glucose. Therefore 1 gm. of glucose must be burned for each 1.5 gm. of fatty acids if an abnormal accumulation of fatty acids is to be prevented.

With this knowledge we may now proceed to the construction of a proper diet. In the first place, it is necessary to give sufficient protein to keep up nitrogen equilibrium and not too much protein, as diabetics never do as well on a high protein diet. It has been found that nitrogen equilibrium is maintained on two-thirds of a gram of protein per kilogram body weight, and a conservative amount of protein is 1 gm. per kg. Therefore, a quantity ranging between 2-3 gm. and 1 gm. per kg. is a proper quantity. In children this must be higher. It is now necessary to know the carbohydrate utilization, and this can be determined by giving a definite diet and subtracting the glucose excretion from the total glucose intake. With the carbohydrate known and the protein, the maximum quantity of fat can be determined. The total glucose is equivalent to the carbohydrate plus 58% of the protein plus 10% of the fat. The fatty acids are equivalent to 46% of the protein plus 90% of the fat. Therefore the formula  $0.46P + 0.9F + C$  plus  $0.58P$  plus  $0.1F$  equals 1.5 will be the maximum diet this patient can take or simplified  $F = 2C + 0.55P$ . To make this calculation easier, by means of another formula the carbohydrate may be determined if the total calories and protein are known. This formula which has been worked out by Dr. Frank A. Evans depends upon the principle that  $9F + 4C + 4P$  equal the total calories, the figures in the formula representing respectively the value in calories of 1 gm. of fat, carbohydrate, and protein. Now if the fat value of the Woodyatt formula is substituted for  $F$ , we have  $9(2C + 0.5466P) + 4C + 4P$  equals Cal. Solving for  $C$  we get  $18C + 4.92P + 4C + 4P$  equals Cal. or  $22C + 8.9P$  equals Cal. and finally  $C = \frac{\text{Cal} - 8.9P}{22}$ .

With this preliminary discussion I shall now state specifically the method that I am now using in the management of my diabetic cases. When the patient presents himself I first determine his height and weight. By means of Du Bois height-weight charts and Du Bois standards the body surface can be calculated and the basal calories for 24 hours. Now knowing the number of calories while at rest and the quantity of protein necessary the carbohydrate can be determined and subsequently the fat. We now have an optimal diet for this individual at rest. The glucose elimination is now subtracted from the total carbohydrate intake, and the carbohydrate utilization is determined. The dose of Insulin is now based on the glucose waste, and with proper dosage the patient soon becomes sugar free. The carbohydrate and the fat are now proportionately increased at the rate of about 10 gm. total carbohydrate a day with as much fat as possible to keep within the ketogenic—antiketogenic ratio, and the insulin is increased in sufficient quantity to metabolize the increased carbohydrate. This is continued until the patient receives a sufficient number of calories to maintain his strength and a near standard weight for his vocation. In the final balancing of the diet an effort is made to get the carbohydrate as high as possible with the fat as low as possible with the least quantity of insulin. In arranging this final adjustment many factors must be taken into consideration. All cases should be given the least food necessary to meet their needs, and the carbohydrates should be sufficiently low to necessitate as little insulin as possible, but no definite rule can be set down as to the exact limit of carbohydrates and insulin in any individual case, as the psychology of the patient, his habits, work, his intelligence, his accuracy, his available food supply, and last but not least, his ability to pay for insulin must all be considered.

After a maximum diet has been established, the insulin is gradually decreased as the tolerance builds up, and in a large proportion of cases, it may be discontinued entirely at a later date. The diet and insulin should, however, always be so adjusted that the urine is entirely sugar free and the blood sugar kept at a normal level or reasonably near normal. Very severe cases and cases of long standing where there is no hope of building up pancreatic function may be permitted to excrete a small quantity of glucose of say—2 to 3 gm. a day under certain conditions provided that they are utilizing a sufficient quantity to secure a diet of the proper food value for their case.

There are various other methods and modifications for the management of diabetic cases.



In a paper which I read before this Society a few months ago on the "Insulin Treatment of Diabetes Mellitus" I then favored the very low diet method with a gradual increase of carbohydrate, protein, and fat and insulin until a proper maintenance diet was secured. With the present method, however, it is possible to regulate the dose of insulin more satisfactorily with the diet, and the accurate balancing of food and insulin can be accomplished with greater accuracy and in a shorter period of time.

The quantity of insulin varies greatly as to the quantity of carbohydrate which it will metabolize. In some cases it will not metabolize over 1 gm. or even less and in others as much as 3 or 4 gm. The quantity also varies to a certain extent in the same individual under different conditions. Emotional excitement, various nervous conditions, digestive disturbances, exercise, slight respiratory infections, and various other factors all have a modifying influence. The average quantity of carbohydrate which one unit will metabolize, however, is probably about 1.5 to 2 gm. In giving insulin, therefore, it will be seen that the dose should be small at first not over one unit for each 2 gm. of carbohydrate excreted and the dose can subsequently be gradually increased until the sugar has entirely disappeared from the urine. It is even better to begin with a very small dose of one unit which can very quickly be increased to the calculated amount, as certain cases are on record where even a small a dose as 1 unit at first has brought on an alarming hypoglycemia.

With regard to the management of coma there has been no material change since my first paper. These patients must be treated immediately, as any delay lessens greatly the chance of recovery. They should have two nurses and a physician in constant attendance. Their bowels should be cleansed with enemas, and the stomach by means of a stomach tube if it contains much food. They should receive large quantities of carbohydrate in the form preferably of orange juice by mouth or glucose intravenously, subcutaneously or by proctoclysis. They should have sufficient insulin to burn up a good portion of the carbohydrate introduced, and sufficient fluid must be given to carry off the toxic products—at least 4 to 6 quarts a day given by any method necessary as its use is imperative. Then finally soda should be administered in a quantity of 30 to 40 gm. in 24 hours. While this heroic treatment is carried out it is most necessary to watch the urine carefully and also the blood sugar if possible to prevent any possibility of converting a diabetic coma into an insulin coma. It is always safer to give

enough carbohydrate to maintain an excess in the blood with a constant excretion of glucose in the urine.

I shall now summarize a series of 103 cases, all of them private patients, that I have had under observation since November 1922, when I received my first supply of insulin. In a previous paper 42 of these cases were reported in some detail. I have for convenience divided them into several groups.

1. MILD CASES: In this series I have recorded 36 cases. All of these cases were able to regain a good tolerance and only six were treated with insulin as the response to dietetic treatment was so rapid and the tolerance so high that no difficulty has been encountered in maintaining them sugar free. In this class of patients, however, the symptoms are slight, and unfaithfulness is most marked. Thirteen of these patients have not been conscientious in following the diets prescribed for them and will in time progress. Twenty-three are under good control and are well and apparently stationary.

2. MODERATE CASES: These comprise 24 cases. Of this number 17 have received insulin and 7 have not. Of this seven cases considerable time could have been saved in the treatment of 5 of them by the use of insulin. In two its use was not practical owing to the fact that they could not be kept under close observation. All of this group secured good tolerance and gained greatly in strength and well being. Four of them have been able to discontinue the insulin entirely and the others are on small doses ranging from 5 to 20 units a day. Two of the cases are very careless about their diets and show sugar at intervals rarely above 1% but continue their insulin as they note themselves a decided change in their condition when they leave it off. The other cases are sugar free and maintain blood sugar of 0.2% or less, which have gradually reduced from month to month. Two of the cases in this group discontinued their treatment, both of them because they regarded it as too expensive.

3. SEVERE CASES WITHOUT COMPLICATIONS: I have placed 18 cases in this group. All of these cases showed signs of serious diabetes. These were all treated with insulin with uniformly good results. Eleven are in good condition and are still taking their insulin. In all of them, however, the dose has been gradually lessened, and one patient who was very severe in the beginning is now taking 5 units every second day. Seven of them have not done well. One discontinued his insulin owing to the fact that a small area of liquefaction necrosis developed after each injection, and this has been the only case that I have

had that has shown any undue irritation, and none has shown infection. Two cases broke over. One returned and after some difficulty, his diet and insulin were again adjusted and he is now doing well. One patient broke over and discontinued insulin and has just returned to the hospital almost in a dying condition. One case, an old man, discontinued his treatment through lack of funds and co-operation on the part of his family. One woman discontinued it entirely through obstinancy and has written recently that she is in a very poor state of health. One man, a case of acromegaly did not secure perfect results owing to lack of co-operation on his part, and he discontinued its use. One patient, a man of over 70 although sugar free gradually declined in strength. However, in the ten cases the results have been excellent and insulin has restored to useful activity several patients whose lives were very near their end.

4. CASES UNDER 20 YEARS OF AGE. There were four in this group. One a girl of 14 had been on a Marsh Newburg diet without satisfactory results and at the time of the beginning of insulin weighed 59 pounds and was extremely weak and in bed. With insulin her diet was increased C69 P47 F 119 Cal. 1535. The blood sugar became normal, and in six weeks she weighed 70 lbs. and her health was perfect. One case a boy twelve was in deep coma with a blood sugar of 0.6% and plasma CO<sub>2</sub> tension of 18.9 volume per cent. There was a complicating nephritis. The urine contained a large quantity of albumin, and the whole microscopic field was filled with granular casts. There was a decided Nitrogen retention with a N. P. N. of 60 mg. per 100 cc. and Urea Nit. of 27.5. This is especially significant as in severe acidosis the ammonia is used up by the acids and the formation of urea is greatly reduced. With insulin complete recovery occurred, and in 18 days this boy was discharged with a normal blood sugar and a diet of C89 P64 F130 Cal. 1782. He was then receiving only two doses of insulin a day of 10 units each. The other two cases were not so severe and both have done as well as could be expected. They are on good diets, are in perfect health, and are free from sugar.

5. DIABETES WITH GANGRENE. There are 11 cases in this group. Four had gangrene of the toes, and all healed satisfactorily. One patient broke his diet and the gangrene returned, and he passed from under my observation. One is a very severe diabetic and requires 45 units of insulin a day to metabolize a barely livable diet and on this he shows a glycosuria of about 2 to 3 grams a day. His health is, however, good and he is holding his own. The other two cases are doing well. Six cases had a very severe gangrene with

marked sepsis. Four died as a result of the sepsis. It was deemed imprudent to operate on these owing to the severity of the condition. In one case the leg was amputated and the patient died two hours later from shock, and in one case recovery occurred after amputation. This case was operated on in another city and came under my observation during the healing of the stump. One case had severe gangrene of the foot without sepsis, and has remained sugar free and the health has greatly improved. The tendons on the dorsum of the foot, however, are exposed and subsequent amputation will no doubt be necessary.

6. MISCELLANEOUS SEPTIC CONDITIONS. There are only three cases in this group. One was a case of severe sepsis with marked elephantiasis of the penis and scrotum from an old ruptured bladder. Death occurred in 48 hours after he was brought to the hospital. The insulin that he received had no effect on the blood sugar. One case, was our beloved colleague the late Dr. Sidney J. Meyers. He had peritonitis, jaundice, extensive infection of the abdominal wall, and marked myocardial weakness, and with this condition, insulin cleared up the glycosuria in 24 hours. One case was an old man, a patient of Dr. Oscar Bloch who had severe cystitis and pyelitis which persisted for several weeks with a temperature of frequently 102 in spite of the fact that he remained free from sugar with 30 units of insulin a day. The sepsis could not be overcome, however, and he finally died from exhaustion. One case had pneumonia but recovered. (This was classified in the mild group). Various other infections like boils and respiratory infections have occurred with a temporary lowering of tolerance but these have not been serious. These conditions have responded to treatment very satisfactorily with the clearing up of the diabetes.

In the treatment of septic conditions it is most important in order to secure the best results to eliminate the septic area whenever possible. It is my opinion that in cases with a septic foot if any degree of severity exists, an amputation should be performed early, rather than treat these cases expectantly. Delays in these cases often cause such a great lowering of the vitality that they cannot stand the shock of the operation, and of course, the danger of a blood stream infection always exists. In other septic processes thorough drainage should be secured at the earliest possible moment. Septic conditions in diabetes even with insulin are unfavorable at best, and no time should be wasted in giving them the advantage of the best possible treatment.



7. **TUBERCULOSIS.** This group comprises four cases. One case became sugar free on insulin and was enabled to take a large diet but rapidly progressed and died. One case is a mild diabetic with early tuberculosis and is apparently doing well without insulin. One case is a man 50 reported as Case No. 5 in my last paper. He is doing hard manual labor without insulin. The fourth patient was reported as case 40 in my previous paper. This case came under observation May 15th, 1923, with very active pulmonary tuberculosis with temperature of 102 and suppurating glands in both axillae and a blood sugar of 0.536%. Her weight was 110 lbs. and in 4 weeks her diet was increased to 2400 calories. She is now sugar free, is practically afebrile and has gained very greatly in strength and weight.

8. **SURGICAL CASES.** Two surgical cases were reported elsewhere. One, a patient of r. Louis Frank, passed through a hysterectomy for carcinoma of the uterus, became acidotic and with insulin promptly recovered and is now sugar free and in good health without insulin. This was reported in my previous paper. In the other case a plastic operation and hemorrhoidectomy were performed by Dr. Irvin Abell under dietetic management without insulin, but in spite of a very low diet the glycosuria persisted, and with the aid of 45 units of insulin a day a fairly satisfactory tolerance was secured, but this patient refused to give herself hypodermics and discontinued its use. This case has been reported in another group.

9. **COMA CASES.** These comprise four cases, the child reported elsewhere and three other cases. All made uneventful recoveries.

It can be seen by the various reports which have been published that insulin has revolutionized the treatment of diabetes. The mild cases will do well under a proper dietary regimen and do not require insulin as a rule, but often it may be a great aid in enabling them to carry out some line of work that could not be accomplished under ordinary dietary management. The moderately severe cases need insulin in most instances to clear up their sugar quickly with the least loss of strength and to enable them to lead useful lives. In the severe cases it is indispensable, and in the complicated cases many lives can be saved that would otherwise be lost.

Cases without complications respond favorably to insulin almost without exception. Coma case are usually saved if seen sufficiently early. Late coma cases are often saved although many of them die even after the  $\text{CO}_2$  tension has been raised to reasonable limits, but this is probably due to irreparable damage to the vital centers. Cases with in-

fection respond least favorably. Infective agents destroy the function of the pancreas and the potency of artificial insulin, and much larger doses are required than under ordinary conditions. However, even in many of these cases the glycosuria can be cleared up, and the patients' resisting power may be increased. Drs. Allen and Sherrill are of the opinion that cases with ordinary infections, excepting tuberculosis, do better on a reasonably low diet than with a higher diet.

In concluding I want to emphasize the fact that diet should never be any higher than is actually needed by the individual, as high diets lead to overstrain of the pancreas and a lessened tolerance. It should be so balanced that as much carbohydrate as possible may be given without the necessity of too much insulin, as large doses of insulin increase greatly the danger of hypoglycemia, and they are too expensive for the average patient. The protein should always be kept within reasonable limits and the fat should not exceed the ketogenic-antiketogenic ratio of 1.5. Each patient is a law unto himself and must be treated as an individual, as no rule can be applied to every case.

#### BIBLIOGRAPHY

- Allen, F. M., Sherrill, Jas. W., Clinical Observations with Insulin. *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Allen, F. M., and Du Bois, M. D., Metabolism and Treatment in Diabetes, *Archives of Internal Medicine* 1915, Vol. 17.
- Allen, F. M., Chapter on Diabetes Mellitus in *Nelson's Loose-Leaf Medicine*.
- Banting, "Insulin," *The Journal Mich. State Med. Sciences* Vol. XXII, March 1923.
- Banting, F. G., Campbell, W. R., and Fletcher, A. A., Further Clinical Experiences with Insulin. *The Brit. Med. Jour.* No. 3236, 1923, PP 8 to 12.
- Banting, F. G., Campbell, W. R., Fletcher, A. A., Insulin in the Treatment of Diabetes Mellitus, *Journal Met. Research* 1922, Vol. II, Nos. 5-6.
- Campbell, Walter R., Ketosis, Acidosis, and Coma Treated by Insulin, *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Davis, R. Hayes, The Insulin Treatment of Diabetes Mellitus, *Ky. Medical Jour.*, July 1923.
- Evans, Frank A., A Method of Establishing Diabetic Patients on High Calory Diets with Ketogenic—Antiketogenic Ratio within the Limits of Safety, 1923, *Am. Jour. Med. Sciences* Vol. CLXVI No. 1, No. 616.
- Fletcher, A. A., Campbell, W. R., The Blood Sugar Following Insulin Administration and the Symptoms Complex—Hypoglycemia *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Fitz, Reginald; Murphy, Wm. P., Grant, Sam B., The Effects of Insulin on the Metabolism of Diabetes, *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Cephart, Frank C., Du Bois, M. D., The Basal Metabolism of Normal Adults with Special Reference to Surface Area, *Archives of Int. Med.* 1915, Vol. 17.
- Geyelin, H. Rawles, Harrop, Geo., Murray, Majoris F., Convin, Eugenia; The Use of Insulin in Juvenile Diabetes, *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Holmes, Wm. H., Simplification of Woodruff Method for Calculating the Optimal Diabetic Diet; *The Journal A. M. A.*, 1922, 78, 22.
- Joslin, Elliott P., Gray, Horace; Root, Howard F., Insulin in Hospital and Home, *Jour. Met. Research* 1922, Vol. II, Nos. 5-6.
- Joslin, Elliott P., *Diabetic Manual*.
- Joslin, Elliott P., *Boston Med. and Surg. Journal*, 186, 1922, 833.
- Kellogg, J. H., A Simple Method of Approximating the Proper Ratio for a "Diabetic Patient", 1923, *J. A. M. A.*, 81, 10.

Mosenthal, Herman O., Chapter on Diabetes Mellitus in Tice's Practice of Medicine.

McPhedran A., and Banting, F. G., Insulin in the Treatment of Severe Diabetes, International Clinics, Vol. II, 33d Series, 1923, PP 1 to 5.

Woodyatt, R. T., Objects and Methods of Diet Adjustment, Archives of Internal Medicine, 1921, XXVIII, 125.

Woodyatt, R. T., The Clinical Use of Insulin, Jour. Met. Research 1922, Vol. II, Nos. 5-6.

Wilder, Russell M., Optimal Food Mixtures for Diabetic Patients, Jour. A. M. A., 1922, 78, 24.

Wilder, Russell M., Boothby, Walter, M., Barbocka, C. J., Kitchen, H. D., Adams, S. F., Clinical Observations on Insulin, Journal. Met. Research, 1922, Vol. II, Nos. 5-6.

Wilder, R. M., Boothby, W. M., Beeler, Carol; Studies of the Metabolism of Diabetes, J. Biol. Chem. 51, 1922, 311-357.

Williams, John R., A Clinical Study of the Effects of Insulin in Severe Diabetes, Jour. Met. Research, 1922, Vol. II, Nos. 5-6.

## DIPHTHERIA.\*

LEE BOTTS, Glasgow

Diphtheria has been known by its present name for less than a century, although the terms, *ulcus Syracum* and *ulcus Egyptacum* together with certain anginas or sore throats with peculiar expectorations indicate that the disease was prevalent as far back as Hippocrates. As early as 100 B. C. laryngotomy was performed. Not until the publication in 1826 of Bretonneau's famous treatise on the epidemics at Tours was the pathology of the disease accurately defined. Bretonneau combined all previous terminologies and grouped them into the term; Diphtheria, (meaning a membrane). During the years of 1883 and 1884 Klebs and Löffler discovered the bacilli and were able to isolate and cultivate them. From the causative organism the Klebs-Löffler bacillus, diphtheria antitoxin was introduced by Behring, Roux, Martin, Chillon and Yersin. During the year 1894 Roux reported that the mortality had been reduced from 58 per cent to 20 per cent or even less.

**AGE OF PATIENTS:** Diphtheria is a rare occurrence under one year of age, however, no age is exempt. The most susceptible age is between the second and tenth year.

**PREDISPOSITION:** Vigor of constitution appears to have no influence on susceptibility of the disease. The strong and the delicate are alike subject to the disease, however, the presence of diseased tonsils and adenoids appears to be a decided predisposing factor. Such throats possess poor resistance to the infection. Children whose diseased tonsils and adenoids have been removed have a much better chance to escape the disease.

**MEANS OF TRANSMISSION:** Diphtheria is contagious and infectious; transmissible through contact, contagious, and through an intermediary, infectious. Diphtheria may be so mild in some children that

its presence is not suspected, and these are the cases which account for the wide spread of the disease, also some individuals, after an attack, continue to harbor the causative organisms in their throat and nasal secretions, such persons are called Diphtheria Carriers.

**BACTERIOLOGY:** The bacilli occur singly and in pairs and very frequently in chains of three or four. The rods are straight or slightly curved, and usually are not uniformly cylindrical throughout their entire length, but are swollen at the ends. They stain readily with the aniline dyes and retain their color by Gram's method. With methylene blue they stain in an irregular and extremely characteristic way, namely, club shaped.

**PATHOLOGY:** Any of the mucous surfaces may be involved, namely, pharynx, nasal cavities, lips, mouth, tonsils, larynx and occasionally the esophagus. Following an invasion of the mucous membrane by the specific micro-organism, a pseudo-membrane is thrown out, this may be thin and grayish or thick and grayish yellow, firmly attached to the underlying mucous membrane. The mass thus formed is composed chiefly of fibrin, polynuclear leucocytes, desquamated epithelium and bacteria. Ulcerations and small hemorrhages occur in the subjacent tissues.

**INCUBATION:** The period of incubation is variable, anywhere from two days to one month after exposure.

**SYMPTOMS:** At first the child may complain of feeling tired or sleepy, is cross and irritable, and has loss of appetite. The temperature usually ranges from 99 degrees to 102 degrees Fahrenheit. The breath is very offensive and I would say almost characteristic. There may be some sore throat, but this is not constant, a number of children never complain of any sore throat. The child usually is not willing to go to bed and the slowness and mildness with the onset of the diseases is accountable for so many deaths in diphtheria, because the child is not looked upon by the parents as being very sick, therefore the physician is not called until much valuable time has been lost. Not every case has so gradual an onset, for instance, I remember seeing one case four or five hours following the first noticeable symptoms and found a well defined membranous throat. The lymphatic glands at the angle of the lower jaw are usually involved and may be looked upon as an early symptom. Owing to the toxic condition, the pulse is very fast and out of all proportion to the temperature.

**DIAGNOSIS:** There are no two throats that look alike in diphtheria, the membrane may appear in one patch or in numerous patches, or it may be in one large mass. Usually it

\*Read before Third District Medical Association at Scottsville, August 29, 1923.



appears first on the tonsils, later their pillars, then the uvula and posterior pharyngeal wall. Any false membrane in the throat should be looked upon as diphtheria and treated as such with a large dose of antitoxin. There are a number of conditions which have to be differentiated from diphtheria, the chief one being follicular tonsilitis, and it is hard to tell the difference. The famous Dr. Kerley, of New York, says the man is yet to be born who can differentiate the two conditions without laboratory findings. So when in doubt always use antitoxin for it will do no harm in case it be tonsilitis and may save the child's life if it is diphtheria. I think the man that will treat or rather propose to treat a case of diphtheria without antitoxin, with our present understanding of its value, should have his license revoked and absconded by his associate practitioners.

**PROGNOSIS:** The most favorable outcome of a given case depends largely upon two factors, namely, *big* and *early*. A *big* dose of antitoxin given *early* in the disease. The condition of the throat previous to the attack is also an important factor. Diseased tonsils and adenoids contribute to the death rate in diphtheria. With the intelligent use of antitoxin, only about ten out of every hundred cases of diphtheria prove fatal, against a mortality of fifty-eight per cent without its use, so why hesitate to use antitoxin?

**COMPLICATIONS:** The complications in their order of frequency, are broncho-pneumonia, nephritis, endocarditis, otitis, adenitis and toxic paralysis.

**TREATMENT:** Since the introduction of diphtheria antitoxin the disease has lost most of its former terror. The high death rate from diphtheria now is largely due to parents who fail to appreciate the possible dangers that may rise from a sore throat and who fail to call a physician early in the illness, and, secondly, to physicians and parents who do not believe in antitoxin, or use it timidly in small doses or wait for further developments before using it at all.

**DOSAGE:** No matter how mild the case, always use 5,000 units the first dose and repeat in twelve hours if no improvement. If the case is seen late in the disease, use 10,000 or even 20,000 units as the initial dose. The most favorable site is under the skin in the abdomen, the skin is looser and causes less pain there than at any other locality. Free elimination is an important factor, the tongue is always heavily coated and this is the best means of clearing it up. The use of sprays and gargles of an alkaline nature are of benefit as they tend to keep the throat and nose clean. In children that can not gargle, the throat irrigation is to be employed in severe

cases. The sick room should be kept well ventilated regardless of the weather, the temperature should never be above 70 degrees, Fahrenheit. Food is usually poorly taken, due to loss of appetite and the pain caused by swallowing. Milk is the best article of diet along with soft cooked eggs and broths. Particular attention must be paid to the urine and this frequently examined for albumin. If the heart's action becomes weak, irregular or intermittent, such stimulants as strychnin, strophanthus or alcohol are beneficial.

Every case of diphtheria should be quarantined, absolutely no company, and the members of the family that are obliged to attend outside duties should not come in contact with the sick ones. Separate dishes should be used and all bedding and linens should be boiled before sending to the laundry. The room should be fumigated before general use is established. If possible during the attack other members of the more susceptible age should be sent from home. These rules should be observed to prevent the spread of the disease.

By the use of the Schick test it is possible to tell whether an individual is susceptible to diphtheria or not, the elements required to make this test can be had at our drug stores. The toxin is supplied in capillary tubes, this is mixed with 10 c.c. of sterile salt solution and .2 c.c. of this is injected, subcutaneously with fine hypodermic needles. If immune no reaction occurs at the site of injection, however, if no immunity exists within thirty-six hours a red, definitely outlined area about the size of a dime will appear, which becomes wrinkled and scaly. If this test is positive, toxin antitoxin should be given, three consecutive doses, five days apart. This is similar to the typhoid vaccine in its effect and is the best preventative against diphtheria known to the medical profession at present, at least it was accepted as such at the 1921 session of the Kentucky State Medical Society and its use highly recommended. With the use of the toxin antitoxin, I do not deem it necessary to use the prophylactic dose of diphtheria antitoxin which was formerly employed.

Of the three different types of diphtheria, namely, oral, nasal and laryngeal, the latter is to be looked upon as the most dangerous of all. The larynx and around the vocal cords may be the primary seat of infection or it may appear days later following the oral or nasal type. One case of this type of diphtheria is enough to impress a picture upon one's memory that can not be erased. There is a brassy croupy cough, the child will usually be covered with a cold clammy perspiration and can be heard several feet in its efforts for breath, the sound produced is almost characteristic, it will be seen grasping

and clawing at its throat as though in an effort to tear the obstructing membrane away. The breathing is fast and labored, and they all have an anxious pleading look as if they were begging you to do something to relieve them. They are very restless and will sit upright in bed in their futile effort to get enough air. The pulse is very fast and irregular, pupils dilated, lips and finger nails show signs of cyanosis. This picture calls for immediate aid on the part of the physician and for the relief of such a condition the medical profession owes a large debt to Dr. Joseph O'Dwyer, of New York. He devised an instrument with an assorted set of tubes which can be placed in the larynx through which the child is able to breathe. The process of placing the tubes in the larynx must be done very quickly as the child is unable to breathe while intubating. The child should be intubated as soon as it is seen to be wasting vitality in its efforts to carry on respiration. During my stay at the city hospital of Louisville I had the opportunity of intubating several cases after having practiced upon the cadaver, also a few in private practice.

One of the most gratifying things one can imagine is to hear the whistle of air as it goes through the tube for the first time and see the child which was at the point of asphyxiation and death's door, begin to breathe deeply, and after coughing a few times, drop off to sleep. I usually leave the tube in place four or five days during which time the child has to be fed liquids while lying on its back with head hanging off the side of bed. In this way the food does not enter the tube. These are the types of diphtheria cases that formally choked to death. A big and early dose of antitoxin given to this type will usually avoid the use of a tube.

I might add that from my limited experience, intubation has been by far more gratifying than laryngotomy.

**Fatalities After Operations on the Nose.**—Burger has compiled sixty-six cases and comments on Loeb's collection among American surgeons of 190 fatalities after operations on the nose and 142 on the throat. He concludes his analysis with seventeen rules that should always be borne in mind in operating on the nose, and mentions in addition Ballenger's warning not to operate endonasally in cases of violent headache unless lumbar puncture shows that there is no danger of already existing meningitis. One of his rules is that if the physician causes pain in introducing the nasal speculum, this demonstrates that he is too clumsy to attempt even to probe the nose-frontal sinus passage.

## REPEATED UTERINE HEMORRHAGE: HYSTERECTOMY RECOVERY. CASE REPORT.\*

By L. WALLACE FRANK, Louisville

Mrs. M., aged 26, was admitted to the Louisville City Hospital in November, 1922, with the history of having been delivered a week previously and the night before admission she had a terrific post-partum hemorrhage. Examination revealed a vagina filled with blood clot and an open cervix. The uterus was greatly enlarged. A diagnosis of retained secundines made and we thought best to do an immediate curetment. This was done by the resident surgeon without an anesthetic and the uterus packed. The patient did very well for about 10 days and then had another hemorrhage. At that time her hemoglobin was exceedingly low as was also her red blood cell count. Blood transfusion by the citrate method was done, the patient given an anesthetic and the uterus thoroughly cleaned out. After curettage her temperature rose to 105 degrees F., and she developed a tension mass in the region of the left broad ligament, which was evident by digital examination. The vagina was packed after curettage and the bleeding ceased. Her temperature continued around 104 to 105 degrees F. for two weeks or more, her red blood cell count gradually lessened, and she was again transfused.

Six weeks following her admission and four weeks after the last transfusion she had a third hemorrhage which continued until she was practically exsanguinated. Examination revealed a small mass on the left side of the pelvis, her temperature was between 101 degrees and 102 degrees F., and we felt that unless an hysterectomy was performed the life of the patient would be lost. She was again transfused. The only donar available was her mother from whom a quart of blood had already been taken. In doing the transfusion we felt that on account of a quart of blood having been taken from the mother she could not afford to lose another pint, consequently only 300 c.c. of blood was introduced by the citrate method. Following the transfusion her red cell count was only 1200,000 per c. m. m. and her hemoglobin was comparatively low. Notwithstanding this under light ether anesthesia hysterectomy was performed. The uterus was very small, necrotic throughout and inflammatory. The tissue was so soft and friable that forceps could not be made to hold, and when amputation was started at the cervix the entire cervix was torn across the moment the peritoneum was in-

\*Clinical report before the Louisville Medico-Chirurgical Society.



cised. Hysterectomy was quickly completed, only the uterine body being removed, a drain was inserted, an abscess in the left broad ligament was opened and a drain introduced, and the abdomen closed. After a rather stormy convalescence extending over a period of five weeks she recovered.

I saw the patient today for the first time since the operation which was performed four months ago. She is now very much alarmed because of the fact that there has been a return of the bleeding after four months.

The interesting features to me were: here is a patient who so far as her blood count was concerned, was very much below what we consider as dangerous for an anesthetic, yet who withstood the operation and recovered notwithstanding the fact that she was profoundly septic; furthermore, with the stump of cervix which I am sure is not over three-fourths of an inch in length, she is starting to menstruate again four months after the operation.

### CASE FOR DIAGNOSIS.\*

By S. C. McCoy, Louisville

A male, aged 28 years; married; blacksmith; father died at age of 64 years, cause unknown. Mother died at age of 38 years of pulmonary tuberculosis; no brothers or sisters dead; one sister living at age of 24 years, her health is good. Patient has been married 9 years; no children; no history of miscarriage; wife in good health.

In the month of January, 1923 he noticed a slight popular eruption appearing on his right cheek, dorsal surface of hands and arms. These areas gradually grew in size, became elevated and hardened, as may be noted at present. The unusual appearance of this lesion as well as the history he gave of having had many different and conflicting diagnoses made seem sufficient reason for presenting him to you for your diagnosis at this time. According to his statement he has had three blood Wassermans made since the onset of this disease with a negative report each time. He also states the only treatment instituted was the application of the Roentgen-ray two or three times within the last two weeks, which has made no change in the appearance.

An apology is offered the members for the lack of history and other data in reporting the case.

\*Clinical report with exhibition of patient before the Jefferson County Medical Society.

## BOOK REVIEWS

**A Compend on Bacteriology including Pathogenic Protozoa** by Robert P. Pittfield, M. D. Pathologist to the Germantown Hospital; Late Demonstrator of Bacteriology at the Medico-Chirurgical College, Philadelphia; Visiting Physician to St. Timothy's Hospital and Chestnut Hill Hospital, Philadelphia. Fourth Edition with 4 Plates and 82 other Illustrations. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Publishers, Price \$2.00.

This little book was designed by the writer to serve the needs of the medical student preparing for examination, and for the practitioner of medicine who desires to acquaint himself with the principle facts of the rapidly growing science of bacteriology. An effort has been made to reduce the subject matter to as concrete a form as possible.

While the literature of the subject of immunity is as vast almost as the rest of bacteriology, yet it is hoped that the chapter in this book on immunity gives in outline the essential accepted teachings on the subject.

Minute details of cultures and technic are not given. They must be sought for in books on descriptive bacteriology.

**Diathermy and its Application to Pneumonia** by Harry Eaton Stewart, M. D. Attending Specialist in Physiotherapy, U. S. Marine Hospitals, N. Y.; Consultant in Physiotherapy, U. S. V. B. Hospital, New Haven, Conn.; Director, New Haven School of Physiotherapy; Formerly Assistant Director, Section of Physiotherapy, Office of the Surgeon General, U. S. Army, and Supervisor of Physiotherapy, Bureau of U. S. Public Health Service, Washington. With forty-five illustrations and fifteen charts. Paul B. Hoeber, Inc., Publishers, 67-69 E. 59th St., New York City. Price \$3.00.

The author has had two years' experience in the treatment of pneumonia with diathermy in U. S. Marine Hospital, No. 21 (Staten Island), where every case was checked up by the full clinical and laboratory findings of the staff. The results obtained were as startling as they were gratifying.

In the introduction Dr. Stewart acknowledges that the results obtained by some of his co-workers have surpassed his own. This would seem to indicate that the profession in general should duplicate or better the results reported.

The author insists that "hit or miss methods will not obtain good results in this work any more than they will in any other therapy or surgery." He has therefore written an unusually clear, but at the same time condensed, description of the physics, physiological effects and therapeutic indications of both medical and surgical



diathermy. Technique is described with unusual clarity.

Particular emphasis is laid on the fact that diathermy properly applied is harmless under all conditions and that it brings almost invariable symptomatic relief. Above all it has apparently lowered the general average mortality. This lessened death rate was particularly evident in a carefully worked out comparison with a group of controls under conditions identical in every respect, except in the use of diathermy.

A large number of detailed case reports giving all the clinical and laboratory findings—the most conclusive evidence that a scientist can offer—are given in this book.

Practically every aide, nurse and physician who has actually seen the treatment properly given has expressed faith in diathermy as a therapeutic adjunct of distinct value in pneumonia.

The book will be profusely illustrated, well printed and well bound.

**Practical Physiological Chemistry.** A book designed for use in courses in practical Physiological Chemistry in schools of medicine and of science by Philip B. Hawk, M. S., Ph. D. Professor of Physiological Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Eighth Edition, revised. With 2 full-page plates of Absorption Spectra in colors, four additional full-page color plates and one hundred and ninety-seven figures of which twelve are in colors. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, publishers. Price \$5.00.

The continued approval of this volume by the teachers of physiological chemistry in this country and abroad has necessitated a new edition in less than eighteen months after the previous edition left the press. In order to introduce such new material as would insure a thoroughly up to date volume, it was necessary to increase the size of the book slightly, in spite of the deletion of a considerable number of old tests and methods which had outlived their usefulness. While the entire volume has been revised, the bulk of the new matter has been introduced under the sections on Blood Analysis, Acidosis, Quantitative Urine, Vitamins, and Kidney Function.

The author desires particularly to direct the attention of users of the volume to "Benedict's Clinical Quantitative Test for Sugar" and "Folin's Clinical Quantitative Test for Albumin" which are given in an addendum on page 665. These two tests mark a distinct advance in the available procedures for the clinical examination of the urine.

**The Health of the Runabout Child.** "The Journey from Mother's lap to the School Gate." By William Palmer Lucas, A. B., M. D., LL. D. Professor of Children's Diseases, University of California Medical School, San Francisco; For-

mer Medical Member of Commission for Relief in Belgium; Former Chief of Children's Bureau American Red Cross in France. The MacMillan Company, Publishers, 66 Fifth Avenue, New York. Price \$7.75.

This valuable little book deals with the child in the preschool age in a very readable manner.

**The Surgical Clinics of North America** (Issued serially, one number every other month). Volume III Number V (Minneapolis, St. Paul Number, October 1923,) 300 pages with 200 illustrations. Per clinic year (February, 1923 to December, 1923). Paper \$12.00: Cloth \$16.00 net. Philadelphia and London: W. B. Saunders Company.

These volumes are issued serially and have the added attraction of being new, and it is the beside the amphitheater case—teaching that is put into print. The day in and day out cases with all the variation from types that the general practitioner meets in his daily rounds, that are described and the complete index makes all the material easily available.

**A Clinical Guide to Bedside Examination** by Dr. H. Elias; Dozent and Assistant at the First Medical Clinic of the University of Vienna, Austria. Dr. N. Jagie Extraordinary Professor and Chief Physician to the Sofienspital, Vienna, Austria. Dr. A. Luger, Dozent and Assistant at the Second Medical Clinic of the University of Vienna, Austria. Arranged and translated by Wm. A. Brams, M. D., Chicago, Ill. Adjunct in Medicine, Michael Reese Hospital, Formerly Lieutenant Commander, Medical Corps, United States Navy. Rebman Company, Publishers, New York.

This little volume was prepared with a view of furnishing the physician and student with a guide for the physical examination of a patient at the bedside. It is also intended to offer a nomenclature which may be used by the various schools and which may thus facilitate the recording and interpretation of history charts and reports of the results of the physical examination.

It is very important that the examination of the patient be thorough and that nothing escape observation by the physician. It is equally important that the findings be reported in a uniform and orderly manner and that negative as well as positive findings be recorded.

No detailed descriptions, theories or procedures requiring laboratory, graphic or other instrumental aid are discussed in this booklet. The reader is referred to books on these various subjects for a comprehensive study of the more complicated methods, as only the findings on inspection, palpation, percussion and auscultation are included in this volume.

This little booklet is offered to the profession with the hope that it will meet the requirements mentioned in the foregoing paragraphs.

**A Practical Text-Book of Infection, Immunity and Biologic Therapy** with special reference to immunologic technic. By John A. Kolmer, M.D., Dr. P.H. Professor of Pathology and Bacteriology in the Graduate School of Medicine, University of Pennsylvania, with an introduction by Allen J. Smith, M.D., Professor of Pathology in the School of Medicine of the University of Pennsylvania. Third Edition. Thoroughly revised and mostly rewritten. Octavo of 1210 pages containing 202 original illustrations 51 in colors. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$12.00 net.

This new (3rd) edition of Dr. Kolmer's work is in fact a new work. The chapters on precipitins, agglutinins, and complement-fixation have undergone heavy revision, including the recent investigations by Dr. Kolmer and his colleagues on complement-fixation in syphilis and a new method based on these studies. New chapters have been added on hemagglutinins, bearing especially on their relation to blood transfusion; on serum reactions in syphilis other than complement-fixation reactions; on allergy in relation to infection and immunity, clinical allergy, allergic skin reactions, treatment of human allergies and the Schick test. The chapters on vaccine and serum therapy have been very largely rewritten and nonspecific protein therapy included. An important new chapter is that on biologic therapy of tuberculosis as well as that on blood transfusion, giving considerable attention to methods for transfusion.

**Diseases of the Eye**—A handbook of ophthalmic practice for students and practitioners, by George E. de Schweinitz, M.D., LL.D., (Univ. of Pa.), professor of Ophthalmology in the University of Pennsylvania; Ophthalmic Surgeon to the University Hospital; consulting Ophthalmic Surgeon to the Philadelphia General Hospital and the Orthopedic Hospital and Infirmary for Nervous Diseases; Colonel, M. R. C., U. S. Army. Ninth edition, reset, with 415 illustrations and 7 colored plates; octavo of 832 pages. W. B. Saunders Company, Publishers, Philadelphia and London. Cloth, \$10.00 net.

This edition of Dr. de Schweinitz's work records the important ophthalmic observations, therapeutic measures, and surgical procedures which have been made and devised since the appearance of the former edition. The 100-page section on operations gives you preparation of field, of instruments, dressings, sutures; general, local, and infiltration anesthesia; local hemostasis, and the exact technic of all procedures.

Some of the more important subjects discussed for the first time are: Jennings' self-recording test for color blindness and Nagel's card test; ophthalmoscopy with red-fire light; measurement of accommodation by skiascopy; electric desiccation in the treatment of lid carcinomas and epi-

bulbar growths; epidermic grafts for the correction of ectropion; epithelial outlay for ectropion, Esser's epithelial inlay; Maxwell's operation for contracted socket; conjunctivoplasty; Muller's detachment of retina.

Besides a thorough treatise on every disease of the eye, both medical and surgical, with emphasis on diagnosis and treatment, this standard work has a section of 200 pages on examination, testing, refraction, use of ophthalmoscope, fitting of glasses, etc.

**A Primer for Diabetic Patients.** Brief outline of diabetic treatment, including directions for the use of insulin, sample menus, recipes and food tables. By Russel M. Wilder, M.D., Mary A. Foley and Daisy Ellithorpe, dietetians, The Mayo Clinic. Second edition, reset. 12mo of 119 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.50 net.

The book is intended primarily for use with their own patients at the Mayo Clinic, replacing mimeographed sheets that were formerly depended on. It is in no sense a treatise on diabetes, and is designed to include only that which the patient himself must know in order to cooperate intelligently with the physician in the management of his disease.

The second edition is much more than a revision. The entire book has been rewritten in order to incorporate directions for the use of insulin and to include certain recent ideas of diet adjustment and of the use of food mixtures richer in fat than was formerly considered permissible. For the theoretic considerations responsible for the latter change the professional reader is referred to recent journal articles. The introduction of insulin is the chief reason for the edition. While this great advance is materially improving the results of treatment, it makes more imperative than ever the intelligent and quantitative control of the diet and necessitates more careful training of the patient than was necessary before. In this edition will be found, furthermore, fifty new recipes which will prove useful in diversifying the restricted regime of the patient.

**The Note Book of an Electro-Therapist,** By Mel. R. Waggoner, M.D., Illustrated, McIntosh Electrical Corporation, Publishers, Chicago, Illinois.

It is a conservative statement to say that there is hardly a diseased condition in which electricity is not indicated either as an adjunct or actual curative measure, for the reason that with it we can produce mechanical, chemical and thermal changes. These are the three main weapons that nature uses in her attempt to maintain normal function. First, she must raise the temperature of the affected parts. If it is local we call it inflammation; if general, fever. By so doing she



increases chemical activity. She then hastens the circulation (mechanical) in order to drain the decomposed products away.

Technic has developed tremendously in the last few years; so much so that there is no present day literature which is really up to date. In fact most of our literature has no real technic, yet this spells the difference between success and failure in the use of electricity.

**Blood Chemistry Coloremeteric Methods for the General Practitioner with Clinical Comments and Dietary Suggestions.** By Willard J. Stone, M.D., Pasadena, California, attending physician Los Angeles General Hospital. Introduction by George Dock, M.D., Pasadena, California. Svo, illustrated, printed on special water-proof paper with water-proof binding for laboratory use. Price \$2.25 net. Paul B. Horber, Inc., Publishers. Publishers of *Annals of Medical History*, 67-69 East 59 Street, New York City.

Dr. Stone has given the essential details of the most valuable clinical methods of biochemistry, methods that have been extensively used by himself and others. Those already familiar with such work will find the book useful for reference, while those who have been discouraged by the mass of detail given in more exhaustive textbooks will find it a clear and accurate guide. The use of such methods of clinical study will add not only interest but greater accuracy to the work of the physician and enable him with satisfaction to take part in the general advance of clinical knowledge. The large field of clinical chemistry is open to those who are interested in giving to their patients advice founded on facts rather than fads or fancies. It should also be recalled that many discoveries in the field of medicine have come from small laboratories, a reason which should give further stimulation to the more general adoption of such investigative methods of work.

In this book are given the essential details of the most valuable clinical methods of biochemistry. It contains suggestions for blood chemistry work, analysis of uric acid and gives important dietary rules with a chapter on diabetes including its treatment with insulin.

**The Elements of Public Health Administration.** By George Sparr Lockett, A.B., M.D., Director of Public Health, State of New Mexico; Charter Fellow American Public Health Association and Harold Farnsworth Gray, B.S., M.S., Gr.P.H., Chief, Division of Sanitary Engineering and Sanitation, New Mexico Bureau of Public Health; Member American Society of Civil Engineers; Fellow American Association for the Advancement of Science; Member Royal Institute of Public Health; formerly Health Officer City of Palo Alto, California, State District Health Officer, California, etc., etc. P. Blakiston's Son &

Co., Publishers, 1012 Walnut Street, Philadelphia.

In the fall of 1919, the authors were called upon to help construct an entirely new state health department, where no organized central health agency had previously existed. Among the many problems encountered was that of instructing the local, part-time health officers in their duties. Most of these physicians had been out of touch with modern health agencies for years; had been busy with their private practice, and were naturally unfamiliar with sanitary procedure as conducted in other communities. To furnish a background of general principles, there was needed an elementary textbook on public health administrative methods, a simple, condensed summary that could be used as a ready reference by the practicing physician who was acting as health officer and who had no time to read the larger works. At the moment, no book which exactly fitted this requirement was available, so it seemed desirable to prepare a set of lessons and to issue them at regular intervals to the local health officers. The object was to tell the "how" and the "why" of their official duties and to tell it in such a way that they could immediately apply it. Such was the beginning of this little book. It is in no wise intended to supplant the more comprehensive texts, but only to furnish a handy manual of practical suggestions.

**Anatomy and Physiology**—A new and unusual text-book for schools of nursing, normal schools, and colleges by Jesse Feiring Williams, M. D., Teachers College, Columbia University, New York City, with 369 illustrations, 25 of them in colors. Cloth, \$3.00 net. W. B. Saunders Company, Publishers, Philadelphia and London.

This work is new, not alone in date of publication, but in the manner of its presentation. The approach is the biologic one, beginning with the cell and following through the different systems of the body. Basic and essential data concerning structure and function are presented in orderly and logical sequence.

Embryology is given a distinct place in the text, and bones, muscles, nervous system, and viscera are given meaning in the light of origin and development. The child is stressed—a feature not found in most books.

Teaching difficulties are lightened by suggestions for practical application of the theory. At the end of each section are a series of practical exercises, a group of spirited questions, and a list of selected references. To help the teacher help the student has been the constant motive of the author. The recommendations of the "Standard Curriculum for Schools of Nursing" have been followed.

There are nearly 400 extremely instructive illustrations, 21 of them in colors. The importance of illustrations needs no emphasis. With-



out adequate opportunity for dissection of the human cadaver, the student is dependent very largely on illustrations for comprehension of the text.

**Personal Hygiene Applied**, By Jesse Feiring Williams, M.D., Professor of Physical Education, Teachers College, Columbia University, for courses in high schools, colleges, and schools of nursing. Illustrated. Cloth, \$2.50 net. W. B. Saunders Company, Publishers, Philadelphia and London.

For many years Dr. Williams has given courses in personal hygiene and physical training at Teachers College, Columbia University. He presents his subject from a new angle—from the point of view of "health for life's sake"—stressing the importance of mental, social, and moral life, as well as mere physical well-being.

The language is not technical. It is simple, easily understood, and scientifically accurate. Here the nurse will find in uncompromising and applicable form the principles of personal hygiene that she must observe if she is to reach and maintain her highest efficiency. Dr. Williams has clearly pointed the road to a rational and scientific attitude toward the whole question of health preservation and disease prevention.

Speaking of Dr. Williams' book, *The Modern Hospital* says, "Physicians, nurses, and hospital social workers are frequently called upon to furnish some guide to patients, parents, and teachers in the way of healthful living. This book will answer that purpose in a broader way than many works of pure hygiene."

At the head of each chapter is a summary of its divisions—a great help when using the book in class work.

**The Evolution of Public Health Nursing**, By Annie M. Brainard, Lecturer on Public Health Nursing in Western Reserve University. Its trials and triumphs, its difficulties and successes to its present organized efficiency. W. B. Saunders Company, Publishers, Philadelphia and London.

**Nursing Technic**, By Mary C. Wheeler, R.N., Superintendent of Illinois Training School for Nurses, Chicago, Ill. 25 Illustrations specially prepared under personal supervision of the author. Second revised edition reset. The new edition of this standard work has been entirely revised and reset. A section on bandaging has been added and the constructive ideas of the users of the first edition have been included for its betterment. J. B. Lippincott Company, Publishers. Price, \$1.75.

This book has been written with the hope that the teaching of the fundamentals of nursing technic may be more nearly standardized in schools of nursing. It places before the students the

main objects of any nursing procedure in such a way as is hoped will induce them to think and plan for the comfort of the patient, and to note the value of the procedure to the patient, together with the mechanical process of getting the materials together and their proper use.

A vast amount of time has been devoted to the various methods in order to find out those which could be successfully used, together with the greatest economy of time, thought and material.

And the same may be said of the illustrations, which really illustrate and show the nurse exactly how to do her work in so far as can be shown by photographs.

**Nutrition of Mother and Child**, By C. Ulysses Moore, M.D. M.Sc. (Ped.), Instructor in Diseases of Children, University of Oregon Medical School. Including Menus and Recipes by Myrtle Josephine Ferguson, B.S., B.S. in H.Ec., Professor of Nutrition, Iowa State College, Ames, Iowa. With 27 illustrations. J. B. Lippincott Company, Publishers. Price \$2.00.

The important discoveries in nutrition made during the past five years have revolutionized our ideas of dietetics. This volume presents the facts of nutrition which have been accepted by schools of accredited standing everywhere. The book lays particular emphasis on the newer conception of breast feeding, the building up of breast milk, vitamins and the mineral content of the diet. Nothing is included which has not been tested and proven of practical value in personal experience. The volume is written in simple straightforward English and as untechnical as is feasible in the presentation of scientific facts. It is so arranged that it may be employed by nurses and social workers for instruction of mothers in the homes and in conducting short courses in nutrition.

**Rubber and Gutta Percha Injections**, By Charles Conrad Miller, M.D., Chicago.

Preliminary report of the use of various forms of rubber and gutta percha subcutaneously for the purpose of raising the depressed nasal bridge and filling in various tissue deficiencies. Illustrations and descriptions of the types of material used, the manner of preparation and special syringes used by the writer. Price \$1.75 prepaid.

Oak Printing & Publishing Co., Chicago.

**Gynecology**, By William P. Graves, M.D., Professor of Gynecology at Harvard Medical School. Third edition, thoroughly revised. Octavo volume of 936 pages with 388 half-tone and pen engravings and 146 microscopic drawings, 103 of the illustrations in colors. W. B. Saunders Company, Philadelphia and London. 1023. Cloth, \$9.00 net.

This work is designed both as a text-book and general reference book of Gynecology. In order

to meet these two requirements a special classification has been adopted dividing the subject matter into three distinct parts:

Part I deals with the physiology of the pelvic organs and with the relationship of gynecology to the general organism. The latter subject is a comparatively new departure, and is presented in conformity with the latest methods of medical teaching which strive to impress on the student's mind the importance of the correlation of all branches of medicine and surgery. It is hoped that this part of the work will prove of value both to the advanced special student and to the general practitioner who includes gynecology patients in his clientele.

Part II is designed primarily for the undergraduate student who is taking his initial course in gynecology. It includes a description of those diseases which are essentially gynecologic, and is thus isolated in a somewhat compact form in order that the student may not be confronted by a too formidable array of facts in his collateral reading and in his preparation for his final examination in the subject. In order to accomplish this purpose certain encumbering details have been subordinated. Thus, in the description of each disease, the underlying pathologic processes are enumerated. Microscopic detail, however, can better be learned from pictures than from tedious descriptions. For that reason drawings from microscopic sections illustrating the respective diseases are presented under each subject with full descriptive legends appended to them. In like manner the surgical principles involved in the treatment of the various diseases are recounted, but the technic of the operations and the pictures illustrating their performance, matters of secondary interest to the student of the theory of gynecology, are reserved for a separate section.

Part III is devoted exclusively to the technic of gynecologic surgery and is written for the assistance of the advanced student and practitioner. Surgical devices for the cure of gynecologic diseases are innumerable, and it is impossible to include them all in a book of this scope. Only those operations which from the personal experience or judgment of the author seem best suited for the special requirements are presented. Many excellent procedures have, therefore, been unavoidably omitted.

Graves' Gynecology has enjoyed a large usefulness among gynecologists, surgeons, and practitioners, because it is so complete, so clear, and so excellently illustrated. More than 500 pages of the work are devoted to non-operative treatment and information of decided help to the general practitioner.

**Physical Examination and Diagnostic Anatomy,** By Charles B. Slade, M.D., formerly chief of Clinic in General Medicine, University and Bellevue Medical School. Third edition, thoroughly revised. 12mo of 179 pages illustrated. W. B. Saunders Company, Philadelphia and London. Cloth, \$2.00 net.

This book, as its title implies, is intended to be a text-book on Physical Examination, its technic, fundamental methods and principles, to prepare the students for the study of any of the various able and comprehensive works already written upon Physical Diagnosis.

The diagnosis of specific disease conditions has been carefully avoided, as this work deals chiefly with the normal subject, a few instances of the abnormal being mentioned here and there to emphasize the importance of certain procedures and to retain the interest of the student.

The subject matter has been arranged to accord with what the author believes to be the natural course that an average minded student pursues in acquiring knowledge regarding any subject which attracts spontaneous interest.

---

**Exercise for Health and Correction,** By Frank D. Dickson, M.D., and R. L. Diveley, M.D. 112 illustrations; 127 pages; \$2.00. J. B. Lippincott Company, Publishers, Philadelphia and London.

This book stands almost alone in its particular field. There are many books on physical exercise, most of which are nothing but a jumble of miscellaneous exercises with no definite object. This book has been prepared for those who wish a scientific, progressive series of exercises which may be applied effectively for health and correction. It can be used as a complete course, or selections may be made to suit particular cases. This manual is of the greatest value to physical directors, doctors, nurses and the general public. Those who wish to correct in themselves faults of bodily health will find it a sure guide. The numerous illustrations show practically every movement of every exercise.

---

**Abt's Pediatrics.** By 150 specialists. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In eight octavo volumes totaling 8,000 pages with 1,500 illustrations, and separate desk index volume free. Now ready—Volume I containing 1240 pages with 284 illustrations. Volume II containing 1025 pages with 180 illustrations. W. B. Saunders Company, Philadelphia and London, 1923. Cloth \$10.00 per volume. Sold by subscription.

It has been thirty-five years since there has been issued a work on Pediatrics with any pretensions to completeness. Nowhere was there an authority to which the profession could turn with confidence, knowing they would find what



they were seeking, knowing that what they found would be the conclusions of experience.

So Dr. Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago, gathered about him, as editor, 150 specialists of international reputation, and these authorities have produced a series of monographs which together project today's scientific advances and accepted pediatric practice against a background of sound fundamentals.

The plan of the work is this: First are taken up such subjects as history of pediatrics, anatomy and physiology, physiologic chemistry, metabolism, feeding, hygiene, the various forms of therapy, etc. Then the individual diseases are considered, not superficially, mind you, but exhaustively, stressing the clinical side.

But Abt's Pediatrics does not stop with medicine—it is just as complete, just as modern in matters of surgery. It must be remembered that as the childhood organism differs from that of the adult, so does the surgery of that period. The surgical pathology is different, the technic demanded is different. The entire work will contain 1,500 illustrations.

With the final volume will come a Separate Desk Index Volume. Not only will this be a composite index of the eight volumes, but the volume itself will be thumb indexed—making for quick reference.

Abt's Pediatrics does more than bridge the gap of thirty-five years. It embraces the entire subject through a series of monographs pre-eminently noteworthy for devotion to detail, soundness of teaching, and thoroughness of discussion.

---

**Principles of Vital Statistics**, By I. S. Falk, Ph.D., Department of Public Health, Yale University. Octavo of 258 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$2.50 net.

The work is devoted almost wholly to results of vital statistics—not to theory and methods. Its purpose is to introduce the student to the subject, to describe the more important procedures and sources of information, to indicate certain outstanding evidences and conclusions, and to discuss certain conditions which the untrained must observe in the employment of vital statistics.

---

**A Manual of the Practice of Medicine**, By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Eleventh edition, entirely reset. 12mo of 645 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1923. Cloth, \$3.50 net.

This new (6th) edition gives you everything new in the field of therapeutics that has been proved of value at the bedside. The work has been rewritten and reset. It gives you over 500 pages on drugs—their derivation, forms, compo-

sition, pharmacologic, local and cumulative actions; their toxicology, therapeutic indications, dosage, and administration. It gives you 200 pages on the application of this therapeutic knowledge in the actual treatment of disease—what remedies to use, how to use them, how to treat the complications. It gives you an entire section on remedial measures other than drugs—electricity, massage, heat and cold, spinal puncture, X-ray, radium, actino-therapy, etc. It classifies drugs according to their actions.

---

**The Newer Knowledge of Nutrition** by Elmer V. McCollum, Ph.D., Professor of Chemical Hygiene, School of Hygiene and Public Health, Johns Hopkins University; second revised edition completely rewritten.

McCollum shows by animal experimentation how faulty diet affects the general health—often underlying tooth decay, eye troubles and many nervous disorders, influencing physical and mental development and acting as an important factor in the determination of racial characteristics.

The MacMillan Company, Publishers, New York.

---

**The Examination of Patients**, By Nellis B. Foster, M.D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University, College of Medicine. Octavo of 253 pages, illustrated. W. B. Saunders Company, Philadelphia and London, 1923. Cloth, \$3.50 net.

The one aim of Dr. Foster in writing his book was to present methods of determining facts upon which accurate diagnosis rests. Without such facts and their correct interpretation the most brilliant discoveries in therapeutics or the most skilful surgery avail nothing. The development of laboratory methods has somewhat directed attention away from the fundamentals of sound diagnostic practice—trained senses of touch, sight and hearing. Dr. Foster's book reverts sharply to these fundamentals, believing that a laboratory test but rarely reveals alone the nature of the disease. Usually it serves only to support other evidence—a bit of data like other signs to be weighed in forming an opinion. The work is divided into the following sections: Theory of diagnosis, assembling of data, physical examination, system examinations, nervous system, throat and ear, joints and extremities, breast, tuberculin tests, Schick tests. It tells how to examine a patient.

---

**Introduction to Medical Biometry and Vital Statistics**, By Raymond Pearl, Ph.D., Professor of Biometry and Vital Statistics, Johns Hopkins University. Octavo of 379 pages, illustrated. W. B. Saunders Company, Philadelphia and London. Cloth, \$5.00 net.



This work is written for the medical reader primarily. The illustrations of method are mainly chosen from that field. It will, however, prove of inestimable value as well, to those interested in public health, biology, statistical research, general hygiene, genetics, life expectation, and epidemiology. It gives methods of collecting, tabulating, adjusting, and drawing sound conclusions from statistical data regarding human life. Then the reader is shown how to apply these methods to specific problems in the general field of medicine, biology and hygiene. All factors bearing upon the duration of life are considered, such as genetics, environment, epidemics, etc. A number of charts, graphs, and other illustrations are included. Dr. Pearl's experience in this field fits him eminently to speak with authority.

#### Clinical Diagnosis. By Laboratory Methods.

**A Working Manual of Clinical Pathology.** By James Campbell Todd, M.D., Professor of Clinical Pathology, University of Colorado. Fifth edition, enlarged and reset. Octavo of 762 pages with 325 illustrations 29 in colors. Philadelphia and London; W. B. Saunders Company, Cloth. \$6.00 net.

In the present edition the scope of the book has been greatly extended, much of the new material is the outgrowth of questions and discussions which have arisen in the classroom and laboratory. Each chapter has been carefully revised in the light of the numerous advances. There has been added sections on Rosenthal's application of the phenoltetrachlorophthalein test for liver function, the flocculation test for syphilis, permutite method for ammonia in urine, methods of bilirubin in blood, classification of streptococci, methods of typing pneumococci and newer facts relating to blood typing. Sections which have been rewritten include the laboratory findings in nephritis, coagulation of the blood, blood platelets, special pathology of the blood, intestinal protozoa and many others. This is a very valuable book for the student and laboratory technicians.

**The Practical Medicine Series** comprising 8 volumes on the year's Progress in Medicine and Surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D. Volume I, General Medicine. 1923 Series. The Year Book Publishers, 304 South Dearborn Street, Chicago.

The Department of Infectious Diseases and Endocrinology is ably edited by George H. Weaver, M. D., Professor of Pathology, Rush Medical College, Physician in Charge Durand Hospital of the John McCormick Institute for Infectious Diseases. The contents of this department in-

cludes the study and discussion of Pneumonia, Influenza, Measles, Mumps, Diphtheria, Dysentery, Whooping Cough and many miscellaneous diseases, endocrinology and diseases in lower animals.

Diseases of the Chest excepting the Heart have been discussed and arranged by Lawrason Brown, M. D., Chairman of the Medical Board, Trudeau Sanatorium, Saranac Lake, New York and includes diseases of the chest, bronchi, pleura and miscellaneous conditions of the lungs.

The Department of the Blood and Blood Making Organs, Diseases of the Blood Vessels, Heart and Kidney is edited by Robert B. Preble, A. M., M. D., Professor of Medicine, Northwestern University Medical School, Attending Physician, St. Luke's Hospital.

Diseases of the Digestive System and Metabolism, By Bertram W. Sippy, M. D., Professor of Medicine, Rush Medical College, Attending Physician Presbyterian Hospital and Ralph E. Brown, B. S., M. D., Associate Professor of Medicine, Rush Medical College are the closing chapters of the book.

**Epidemiology and Public Health**, By Victor C. Vaughan, M.S., Dr. P.H., Commissioner of Health of the City of Detroit, and George T. Palmer, M. S., Dr. P.H., Epidemiologist for the Department of Health of the City of Detroit. In three Octavo volumes. A text and reference book for physicians, medical students and health workers. Volume I, Respiratory Diseases, 688 pages; Volume II, Alimentary Infections, Cutaneous Infection, Local Infections, 950 pages; Volume III, Venereal Infections, Public Health, State Medicine. Per volume, \$9.00; per set, \$27.00; cloth binding. C. V. Mosby, 508 N. Grand Ave., St. Louis, Mo., Publishers.

This work by Dr. Vaughan will stand for all time and point the way in preventive medicine. It is monumental in scope.

Scientifically accurate in execution and presented in the charming literary style that has made Dr. Vaughan so popular as a medical writer.

Henry F. Vaughan and George T. Palmer, who have assisted in the preparation of this work, have had large experience in the administration of health problems, both in military and civil life. An important feature of these volumes is the fact that the authors have avoided as much as possible the use of technical language.

Preventive medicine is the big problem confronting the physician and medical educator. Irrespective of what one's opinion may be, the fact remains that how to keep people from getting sick and to prolong life is the one big problem in scientific medicine.

# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00

EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

O. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. B. McCLOURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. McMURTRY .....Louisville

W. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### COUNCILOR-AT-LARGE

W. W. RICHMOND .....Clinton

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

### FOURTH DISTRICT

O. Z. AUD .....Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

R. C. McCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

J. E. WELLS .....Cynthiana

### NINTH DISTRICT

J. W. KINCAID .....Catlettsburg

### TENTH DISTRICT

R. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

J. S. LOCK .....Barbourville

### SECRETARY-EDITOR.

ARTHUR T. MCCORMACK .....Louisville

### BUSINESS EDITOR

L. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

R. E. SMITH .....Henderson

V. D. GUITTARD .....Maysville

P. K. HOLMES .....Lexington

### ASSISTANT EDITORS

#### UROLOGY

C. L. WHEELER .....Lexington

#### DERMATOLOGY

S. A. STEINBERG .....Louisville

#### GENERAL SURGERY

F. T. FORT .....Louisville

O. A. VANCE .....Lexington

#### PEDIATRICS

P. F. BARBOUR .....Louisville

#### OBSTETRICS

EDWARD SPEIDEL .....Louisville

L. O. REDMON .....Lexington

#### EYE

ADOLPH O. PFINGST .....Louisville

#### EAR, NOSE AND THROAT

O. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

R. H. COWLEY, .....Berea

#### ANESTHETICS

W. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Third District.** The fourth bimonthly meeting of the Third District Medical Society met at Russellville, Wednesday, October 31st, the meeting being held in the Baptist Church. The following members were present: Douglas, Guthrie, Hinton, Claypool, Rutherford, Keen, Strother, Stone, R. C. Moss, Carson, Drake, Donnelly, Blackburn, Gower, Kemp, Bartlett, Hunt, Dodson, Gaither, Felts, Duncan, McReynolds, Farmer, Boyd, Burr, Walter Byrne, Sr., Walter Byrne, Jr., Beleher, Turner, Sutton, Crittenden, Morgan, Beauchamp, Russell, Smith and Lasley.

R. C. Moss, Rockfield, gave a supplemental report on three cases of pellagra, brothers, which were exhibited at the Bowling Green meeting.

He also reported four cases of pellagra which had been observed by his father, Dr. V. U. Moss, Rockfield. These cases were discussed by Gower, Gaither and Guthrie.

J. H. Blackburn, Bowling Green, reported a case of a man who had been accidentally shot in the back and right side two weeks previously with a charge of squirrel shot. Within three hours after the injury the urine contained bright red blood which disappeared according to history the following day.

At the time of observation there was tenderness over the right kidney on percussion and pain along the course of the right ureter. The urine contained pus cells, urates and phosphates.

After the twelve mile ride home in a car, the patient got immediate and complete relief from the pain and while voiding the urine the following morning the shot was passed through the urethra.

E. J. Keen, Woodburn, reported a case of typhoid fever in a lady weighing 200 lbs., who had a hemorrhage from the bowels on the tenth day. She soon afterward showed evidences of an acute cholecystitis.

Walter Byrne, Sr., read some abstracts from a paper which was recently quoted in the Literary Digest on "What the People Think of Doctors."

A most delightful dinner was served at Logan College by the Domestic Science Department of that splendid institution. With the Halloween decorations and a splendid orchestra this proved to be the most enjoyable part of the day's program.

J. G. Gaither, Hopkinsville, delivered a splendid talk on the "Diagnosis of Acute Appendicitis," considering in order pain, nausea, and vomiting, temperature and pulse, with localizing signs. He stressed particularly the sequence of the symptoms as had been employed by Murphy. This paper was discussed by Doctors Hunt, Douglas, Guthrie, Carson, Walter Byrne, Jr., Claypool, Rutherford, Blackburn, and in closing by Gaither.



W. P. Drake, Bowling Green, read a paper on "The Nasal Accessory Sinuses as Related to Systemic Infections," in which he showed the manner in which infection in these sinuses was frequently responsible in otherwise obscure conditions and how the relief of the infection would often clear up a so-called rheumatism.

J. H. BLACKBURN, Councilor.

---

**Clark:** The Clark County Medical Society met in regular session on October 19, 1923, at 8 o'clock, at the office of the Secretary, Dr. George F. Doyle, the President, Dr. J. E. Baucom, in the chair.

Members present: Drs. J. E. Baucom, W. Carl Grant, Browne, Ishmael, O. P. Clark, Samuel J. Rose, E. P. Guerrant, E. R. Bush, Ernest Cole, Isaac H. Browne, and George F. Doyle.

Guests: Drs. Louis Frank, C. W. Hibbitt and Virgil E. Simpson, of Louisville; Julian Estill, of Lexington.

The minutes of the previous meeting were read and approved.

Louis Frank read a most interesting paper on Mesenteric Vascular Occlusion: Report of Three Cases in Children, in which he brought out the following points: Mesenteric vascular occlusion, whether arterial, venous, or both, may be sudden or gradual in its development, primary or secondary, partial or complete; it is usually due to embolism or thrombosis, and is almost invariably followed by hemorrhagic intestinal infarction.

Any disease or abnormality which causes stasis in the portal system may be an etiologic factor in venous occlusion. Of special importance in primary occlusion are intestinal changes which permit entrance of bacteria into the vascular channels, such as enteritis; traumatic lesions, surgical or otherwise; the puerperal state, phlebitis; cachexia due to carcinomatosis, malaria, typhoid fever, septicemia, etc. Venous occlusion has followed appendicitis, salpingo-oophoritis, also local vessel wall changes produced by syphilis and other diseases. Secondary occlusion may follow hepatic cirrhosis, pyelophlebitis, syphilis, malignancy, inflammatory or neoplastic lesions which cause portal stasis by pressure or formation of adhesions. Venous thrombosis has been known to follow arterial emboli apparently because of the stasis thus produced.

Unfortunately there are no absolutely pathognomonic clinical signs by which mesenteric vascular occlusion may be positively recognized; and this statement is equally applicable whether the occlusion be arterial, venous, or both. However, there are several indicative symptoms which carefully considered and properly interpreted may at least suggest the correct diagnosis, although it is regretfully admitted that in the majority of

instances a positive conclusion can be reached only at operation or necropsy.

The treatment of mesenteric vascular occlusion is primarily and essentially surgical; and to be effective it is imperative that surgery be early invoked. Procrastination even for a few hours is merely courting disaster and inviting a fatal termination. Medical management represents a delusion excepting insofar as it relates to nutrition and conservation of vital resistance.

The mortality in unoperated cases is almost one hundred per cent; a few examples are recorded where the clinical diagnosis of mesenteric occlusion was made and spontaneous recovery ensued. The patient may be practically moribund when first observed, and death may occur so quickly that nothing is possible looking toward conservation of life. When seen in the earlier stages, however, surgical intervention promises some hope of a successful outcome.

The paper was freely discussed by Drs. Simpson, Guerrant, Rose, Estill, Baucom and Frank (closing).

There being no further business, the meeting adjourned.

GEORGE F. DOYLE, Secretary.

---

Dr. E. P. Sloan, Bloomington, Illinois announces the American Association for the Study of Goiter, composed of Goiter Surgeons, Pathologists, Anaesthetists, Internists, and Radiologists, will have its annual meeting in Bloomington, Illinois the 23rd, 24th, and 25th of next January.

---

**Treatment of Inoperable Cancer of Uterine Cervix.**—Perrola compares the outcome in 50 cases before radium was introduced with 63 given radium treatment since 1914. In 28 of the 50 preradium cases, no benefit was derived from the various palliative measures applied. The pains were permanently abolished in only 4 cases, and temporarily in 3. They persisted unmodified in 29 and increased in 14. The longest survival was eighteen months, the average, seven or eight. In the radium-treated group, the survivals ranged from six to sixty-seven months, and 3 are still living, from sixty-six to seventy-four months since the treatment, the average, fourteen months. The radium arrested the hemorrhagic discharge in all but 11 cases, and the pains in all but 13 cases.





## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

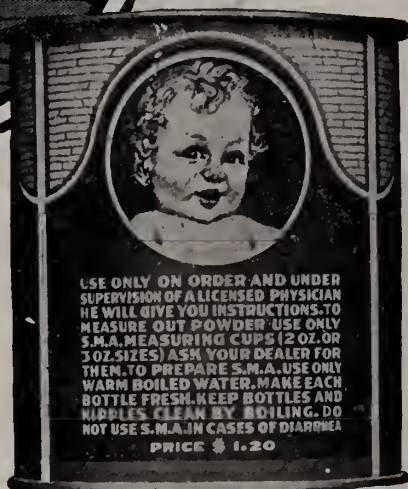
GEO. P. SPRAGUE, M.D., Lexington, Ky.



## A Food to Keep Babies and Young Children Well

**Adapted to Mother's Milk**

If you are prescribing S. M. A. we shall be glad to send you an additional supply so that you will have some on hand for any emergency. If you have never used it we should like to send you some so that you may observe results in your own practice.



Infants fed on S. M. A. look and act and grow like breast-fed infants. Their flesh is firm, they develop normally, and they are normally free from rickets and spasmophilia. In addition, S. M. A. is so simple to feed that the physician can rely on his directions being followed to the letter. To be used only on the order of a physician. For sale by druggists. Formula by permission of The Babies' Dispensary and Hospital of Cleveland.

PLEASE USE THE COUPON

The Laboratory Products Co.  
1111 Swetland Bldg., Cleveland, Ohio

Gentlemen:— Please send me a supply of S. M. A. free of charge.

Physician's Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

I have used S. M. A. \_\_\_\_\_; I have not used S. M. A. \_\_\_\_\_



# KENTUCKY MEDICAL JOURNAL

Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00  
Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., FEBRUARY, 1924

No. 2

## CONTENTS AND DIGEST

### EDITORIAL

CLARK COUNTY HAS COME BACK.....	31
HONOR TO WHOM HONOR IS DUE.....	31
THE SOUTHERN MEDICAL ASSOCIATION.....	31

### SPECIAL ARTICLES

OBSTETRICAL COLUMN, by Alice N. Pickett, Louisville .....	33
--	----

### ORIGINAL ARTICLES

CARCINOMA OF TESTIS: CARCINOMA OF URINARY BLADDER: CASE REPORTS, By Charles W. Jef- ferson, Louisville.....	36
---	----

DISCUSSION by D. Y. Keith, C. G. Hoffman, Oscar Bloch and in closing the Essayist.....	38
CLARK COUNTY MEDICOS AND THE WORLD WAR, By Samuel J. Rose, Winchester.....	38
A CASE OF SCLERODERMA, By B. W. Bayless, Louisville.....	39
BILATERAL PARALYSIS OF FIFTH CRANIAL NERVE: CASE REPORT, By John J. Moren, Louisville...	40
SYPHILITIC MENINGITIS, REPORT OF CASE, By E. E. Butler, Louisville.....	40

(Continued on Page V)

# Ready--Abt's Pediatrics

The immediate success of Abt's "Pediatrics" tells two things: 1—There was an urgent need for a really comprehensive work on the diseases of children; 2—Abt's "Pediatrics" fully meets the need.

The plan of the work is this: First are taken up such subjects as history of pediatrics, anatomy and physiology, physiologic chemistry, metabolism, feeding, hygiene, the various forms of therapy, etc. Then the individual diseases are considered, not superficially, mind you, but *exhaustively*, stressing the clinical sides.

But Abt's "Pediatrics" does not stop with medicine—it is just as complete, just as modern in matters of *surgery*. It must be remembered that as the childhood organism differs from that of the adult, so does the surgery of that period. The surgical pathology is different, the technic demanded is different. These points are fully brought out in this new work. There will be approximately 1500 illustrations.

With the final volume will come a *Separate Desk Index Volume*. Not only will this be a composite index of the eight volumes, but the volume itself will be *thumb indexed*—making for quick reference.

Abt's Pediatrics. By 150 authorities. Edited by ISAAC A. ABT, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Eight octavo volumes, totaling 8000 pages, with 1500 illustrations. Per volume: Cloth, \$10.00 net. *Separate Desk Index Volume Free.*

W. B. SAUNDERS COMPANY

Philadelphia and London



MEAD'S

## BETTER BABIES

Sick Infants

A food formula adapted to the well baby is in most cases entirely unsuitable for sick infants.

ATHREPSIA  
DIARRHOEAS  
COLIC IN BREAST-FED INFANTS  
NON-THRIVING BREAST-FED INFANTS  
LOOSE GREEN STOOLS COMMONLY SEEN IN  
BREAST-FED INFANTS

can generally be controlled by the physician who is familiar with

Mead's Casec  
Mead's Powdered Protein Milk

The value of these products has been demonstrated by pediatricists.

We will be pleased to send any quantity of these products to any physician to enable him to determine their merits in any number of these types of cases.

*The Mead Johnson Policy*



Mead Johnson & Company  
EVANSVILLE, INDIANA

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., FEBRUARY, 1924

No. 2

## EDITORIAL

### CLARK COUNTY HAS COME BACK

The report from the Clark County Medical Society, in another column, is gratifying. No profession in the State is more worthy as far as the individuals who compose it are concerned. This County has received a good deal of undesirable publicity because of its disorganized condition a year or two ago, but the members got together, talked over their troubles and differences and found that they were all trying to do the same thing and that they could accomplish results as an organization that were impossible without it.

We hope that every member of the State Association, particularly every member of an inactive county medical society, will read this article and get busy.

The Clark County Medical Society is now one of the best county organizations in Kentucky, and the credit for it is due to the determination of its members to make it one of the best.

### HONOR TO WHOM HONOR IS DUE

Dr. Watson S. Rankin, the distinguished Health Officer of North Carolina, has been granted a leave of absence for a year to accept the position of Field Director for the survey of municipal health work for the American Public Health Association on a grant which has been made by the Metropolitan Life Insurance Co.

Dr. Rankin is one of the great practical public health statesmen that has been produced by the medical profession of this country in this century. He has a rare combination of vision with the practical power of making his visions come true, is zealous, progressive, thorough, with remarkable personal magnetism, decisive, yet diplomatic. He has been rarely successful in securing for the people of North Carolina rapidly improving health conditions. North Carolina has been wise in realizing the great opportunity that this intimate study of health conditions in the eighty-three cities of the United States

having more than 100,000 people will give to their State Health Officer for them and for this reason has given him a leave of absence, knowing that his absence from the State for these few months, during which he can keep in intimate touch with the loyal organization he has been building these fourteen years, will mean much to the future development of health work in the State.

The JOURNAL desires to congratulate the State of North Carolina, the American Public Health Association, and the municipalities of the United States on this honor to a sanitarian, who so richly deserves it.

### THE SOUTHERN MEDICAL ASSOCIATION

The seventeenth annual meeting of the Southern Medical Association which met in Washington, D. C., November 12-15th was decidedly the most interesting and helpful of any ever held by this Association and those who failed to attend missed one of the greatest and most helpful scientific feasts which has ever been given in this country. A careful study of the program containing the abstracts of many of the papers would be worth while to any general practitioner, and studying closely the papers as published in the Southern Medical Journal would be more profitable still.

Those who are eligible for membership and fail to use the privilege are missing one of the most helpful Associations and Medical Journals which comes to any practitioner of medicine. Many striking things occurred during this meeting and many important resolutions were passed and new and helpful precedents established which will redound to the good of humanity and the honor of the medical profession. Two of these especially concern the medical profession and citizens of the State of Kentucky. One offered by the writer on the trachoma problem, is as follows:

"Whereas, The disease of the eyes known as trachoma has been found to exist from time to time in certain areas through the southern and other parts of the United States; and,



"Whereas, Trachoma has been more or less officially declared to be an infectious, destructive disease and a menace where prevalent; and

"Whereas, No definite, specific cause of trachoma has ever been demonstrated or isolated; and

"Whereas, Instances of confusion in diagnosis arise from time to time due to differences in conception of the true nature of the disease; and

"Whereas, All of these facts constitute a distinct reproach to the science of ophthalmology as well as that of hygiene and of preventive medicine; and

"Whereas, It is of the highest importance that the true nature and causation of trachoma be established beyond peradventure of doubt; therefore, be it

"Resolved, That the Southern Medical Association, in convention assembled, urge the attention of the Rockefeller Foundation and the U. S. Public Health Service to this situation, and beg the active co-operation of these institutions in an exhaustive study of the etiologic factor or factors of trachoma."

The other offered by Dr. H. Marshall Taylor, Jacksonville, Fla., follows:

"Whereas, The domestic use of concentrated lye and other caustic alkalis and of corrosive acids, in ignorance of their dangerous properties and of treatment in case of accident, is a not infrequent cause of death and of prolonged, distressing and incurable disability, particularly among children; and,

"Whereas, In the judgment of this Section the adoption of suitable methods of packing, labeling and distributing such substances would materially diminish the danger; and

"Whereas, Efforts to bring about the adoption of such methods by the voluntary action of manufacturers and distributors has given no prospect of success, be it

"Resolved, That it is the sense of the Section on Eye, Ear, Nose and Throat of the Southern Medical Association, in convention assembled, that in the interest of public health and safety the packing, labeling and distribution of concentrated lye and of other caustic alkalis and of corrosive acids should be regulated by law; and be it further

"Resolved, That this Section recommends the earnest activity in their respective states looking to the adoption of such state laws as may be necessary to effect such regulation."

Both of these resolutions were unanimously passed by the Section, endorsed by the Council and afterwards by the General Session of the Association, thus giving them a triple endorsement.

While the scourge of trachoma in the mountains of Eastern Kentucky has been arrested, the etiologic factor has not as yet been found, and as long as it remains unknown it is a reproach to the science and art of medicine and especial to ophthalmology. The increasing number of cases with the dangerous and pitiful effects of the use of concentrated lye from children picking up small bits and swallowing this innocent looking substance which almost inevitably causes stricture of the oesophagus resulting in a slow and painful death from starvation unless relieved by gastrostomy, demands the protection of the innocent, and to this end a concerted effort is being made by the profession and people through the aid of all the civic clubs of the state, to demand of the legislature that laws be passed compelling the manufacturers and dealers in this substance to place on each package sold a conspicuous poison label with the antidotes thereon. Concentrated lye can now be bought at any grocery by any one without any question being asked as to its use, or warning given as to its danger. Neither does the label mention caution. I urgently request every physician to urge his senators and representatives to endorse the passage of this law without a dissenting voice. It is my purpose in another article within the near future to give a short article with comments on some of the papers read in the different Sections of this meeting which I feel sure will be a great help to the general practitioner.

One of the most helpful and fascinating signs of the times is the rapid progress being made in the science and art of medicine and each year shows a closer approach to its standardization as a fixed science.

J. H. STUCKY.

#### **Compensatory Hypertrophy of the Suprarenals.**

—Specht's research on guinea-pigs and rabbits confirms the view that compensatory hypertrophy of the remaining suprarenal ensues after removal of one. This occurs even in adult animals, and it probably occurs also in man.

**Intracardiac Injections.**—Harttung has found records of seventy-six cases in which massage of the heart has been applied after apparent death, with resuscitation in thirty-five and permanent recovery in twenty. Only massage from below the diaphragm proved effectual, but even at the best this is fraught with grave danger.

## SPECIAL ARTICLE

## Obstetrical Column

Edited by ALICE N. PICKETT

Director of Prenatal Clinic Louisville City Hospital.



SYPHILIS

Three of the 33 mothers for whom Wasserman tests were made, gave positive reactions. You will note the more fortunate outcome of the cases that received treatment, as compared with that of the mother for whom nothing was done.

Case 3—4 plus—no treatment—macerated fetus.

Case 21—3 plus—12 treatments—Baby born at term—living and well.

Case 34—4 plus—11 treatments—Baby born at term—living and well.

## THREE FETAL DEATHS

Of the three (3) fetal deaths in our 39 cases this month—two can certainly not be counted against Dr. Rector's service. One was a macerated fetus of a 4 plus mother. In case 10 the baby was delivered by an outside doctor and sent at once into the hospital where it breathed only a few times after admission. In case 35 the baby's death was due to pre-eclamptic toxæmia and a prolonged labor. The mother had been in active labor for 6½ days before admission. It is possible this baby might have been saved by a different

handling of the case. (See report under Maternal Deaths.)

## TWO FORCEPS DELIVERIES

Case 8. Hospital No. 52336. Para 5. Dr. Rector, Interne; Dr. Pickett, Staff.

This was a feeble-minded woman from whom no record of previous deliveries was obtained. Her measurements were 21-25 ½-18. Arch narrow. The spines encroaching upon the canal to a considerable degree. There is no record of the diagonal conjugate. Labor began with the rupture of the bag of waters. Six hours later dilatation was complete—after 3 hours of hard second stage pains—the head was freely movable in R. O. P. position. Ether was administered and the head was turned manually into an L. O. A. position. An attempt to apply forceps at this time was a failure, as the head rotated to an L. O. P. position, before the second blade could be applied. The anesthetic was taken off and the head manually maintained in L. O. A. position until well fixed by uterine contractions. During this stage 2 doses of pituitrin, each 2 min., were given 15 minutes apart. Mid-forceps were applied and a living baby weighing 8 pounds and 9 ounces was delivered. Mother and child discharged in good condition.

Case 35—(See report under Maternal Death.)

## TWO MATERNAL DEATHS

Case No. 10. Hospital No. 53230. Para 1. Dr. Rector, Interne; Dr. Pickett, Staff.

This patient was admitted postpartum. She had been delivered by her family physician, who had removed the placenta manually. The baby died a few minutes after admission. The woman was bleeding quite profusely. The hemorrhage was controlled by 1 c.c. of pituitrin and it was thought best not to invade the uterus because of the history of exposure to infection. She was put on the sunporch. The head of the bed was elevated. She was kept quiet in bed—on a semi-liquid diet. The bowels were kept open by magnesium sulphate, which was later discontinued and low enemas were given when necessary. Quinine and whiskey were given every four hours. On the fourth day the patient had a chill and the temperature rose to 102.2. On the sixth day the temperature dropped to 99. For the next 12 days the maximum temperature ranged between 99 and 100. The discharge was always foul. A diagnosis of septicæmia was made. On her 18th day, she developed a broncho-pneumonia from which she died.

Under ordinary circumstances we would have thought it best to wipe this uterus out at once with gauze sponges wet with 50%



Hospital Deliveries

No.	Reg. No.	Para	P. C. Care	B. P. R. Toxemia	Wass.	Prenatal Syph. Tr.	Ch. of Pelvis	Ch. of Del.	Pos.	Wt. Baby At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge	
1	53141	3	Clinic	138-85	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.15	Yes	Living	Good
2	53137	2	Clinic	.....	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	6.11	Yes	Living	Good
3	53143	4	Clinic	Low	.....	4 Plus tone	.....	Normal	Spontaneous	L. O. A.	4 1-2	Yes	Dead	Dead
4	53144	2	Clinic	Normal	.....	.....	.....	Normal	Spontaneous	L. O. A.	9.0	Yes	Living	Good
5	53162	2	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.14	Yes	Living	Good
6	53189	1	Clinic	Normal	.....	Neg.	.....	Narrow outlet, nor. inlet	Spontaneous	L. O. P.	7.0	Yes	Living	Good
7	53053	4	Clinic	.....	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	7.7	Yes	Living	Good
8	52336	5	Clinic	Normal	.....	Neg.	.....	21-25 1-2-18	Forceps	ROR-LoA	8.9	Yes	Living	Good
9	53224	2	Clinic	.....	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Yes	Living	Good
10	53230	1	No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	9.1	Yes	Few minute Dead	Dead
11	53027	5	Clinic	.....	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Yes	Living	Good
12	53241	2	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.5	Yes	Living	Fair-Prol. S. C.
13	53262	5	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	3.13	Yes	Living	Good
14	53270	6	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.2	Yes	Living	Good
15	53272	2	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.9	Yes	Living	Good
16	53302	2	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	6.11	Yes	Living	Good
17	53256	9	Clinic	.....	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	7.14	Yes	Living	Fair-old lac.
18	53303	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	6.4	Yes	Living	Good
19	53345	1	Clinic	Normal	.....	Neg.	.....	Small outlet, doub. inlet	Spontaneous	L. O. A.	6.3	Yes	Living	Good
20	53346	3	Clinic	.....	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.3	Yes	Living	Good
21	53364	1	Clinic	Normal	.....	3 Plus 6 Sal-6 Mer.	.....	Funnel shaped	Spontaneous	R. O. A.	7.14	Yes	Living	Good-3 plus
22	53369	4	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8 L. O. P.	Yes	Living	Good
23	53392	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	.....	6.12 L. O. A.	Yes	Living	Fair
24	53396	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	.....	6.6	Yes	Living	Good
25	53436	4	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	.....	8.2 L. O. A.	Yes	Living	Good
26	53444	1	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	8.12	Yes	Living	T. B. Suspect
27	53489	1	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good
28	53497	1	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.8	Yes	Living	Good
29	53499	3	No	.....	.....	Neg.	.....	Normal	Breech	4.1-4.10	Yes	Living	Good except S. C.	
30	53522	3	No	.....	.....	Neg.	.....	?	Spontaneous	?	7.4	Yes	Living	Good
31	53526	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.13 L. O. A.	Yes	Living	Good
32	53185	3	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.10	Yes	Living	Good
33	53554	2	Clinic	.....	Slight	Neg.	.....	Some flattening	Spontaneous	L. O. P.	7.0	Yes	Living	Good
34	53569	3	Clinic	Normal	.....	4 Plus 6 Sal-6 Mer.	.....	Normal	Spontaneous	L. O. P.	5.2	Yes	Living	Good-4 plus
35	53576	1	No	.....	Pre-Eclam.	?	.....	Normal	Forceps	.....	6.8	Yes	Dead	Dead
36	53613	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.7	Yes	Living	Good
37	Home Deliveries	.....	.....	.....	.....	.....	.....	Normal	Spontaneous	?	7.8 ?	Yes	Living	Good
38	.....	2	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	7. ?	Yes	Living	Good
39	.....	2	No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	8. ?	Yes	Living	Good

No. of Clinic cases, 29.  
No. of Non-Clinic cases, 10.  
No. of Maternal Deaths, 2.

No. of Foetal Deaths, 3.  
No. of Puerperal Infections, 1.  
No. of Clinic H. B. P. cases, 7.

No. of eclampsia cases, 0.  
No. of maternal syphilis, 3.

No. of retroversion on discharge, 3.  
No. of toxemia cases, slight 5, moderate 2, pre-eclampsia, 1.

alcohol. This is our custom if we have reason to think some of the placenta is left in the uterus *provided we get the case before signs of infection have developed*. After a chill or any considerable rise of temperature, we usually treat by rest and supportive measures, fresh air and the furtherance of drainage by the elevation of the head of the bed. In this special case we feared our gauze eurette would spread the germs introduced at the time of the manual removal of the placenta.

Case No. 35. Hospital No. 53576. Para 1. Dr. Rector, Interne, Dr. Pickett, Staff.

This patient was admitted to the hospital at 7:30 P. M. after having been in labor 6½ days. She looked worn and anxious. Her pulse was 80—temperature 99.6. Systolic pressure 160. Her pains were from 10 to 15 minutes apart and showed marked uterine inertia. Her external measurements were fair—the outlet contracted and the promontory was reached with difficulty. The cervix was long, rigid and showed a three-finger's dilatation. The baby was in L. O. A. position. The membranes had been ruptured artificially. The fetal heart was 160, quality fair and regular.

A catheterized specimen of urine showed albumin 3 plus, hyalin casts, blood and pus cells. We realized we were dealing with an exhaustion, complicated, we thought, by pre-eclamptic toxæmia, as indicated by the blood pressure and urinalysis. When I saw her at 9:30, we thought the woman in no condition to stand a Caesarean Section, because of the long exposure to infection, her exhaustion and possible toxæmia. For the same reasons we feared the shock an accouchement force would necessitate.

It was decided to direct our treatment towards the elimination of toxines, followed by a rest period induced by morphine. 450 c.c. of blood were removed from the vein,—a 5% soda colonic irrigation was given followed by a hot pack for 30 minutes. She was then given morphine grain 1-6 and put to bed.

A large amount of fecal matter was discharged during the irrigation but much of the fluid was retained because of the pressure of the child's head on the rectum. After the hot pack, her pulse was found to be 130, which Dr. Rector thought partly due to the distension of the abdomen with fluid. The night nurse reported the patient slept well for long periods at a time from 1 A. M. to 5 A. M., when she began to get restless. At 8:30 next morning, I could not hear the fetal heart and the mother's condition was very grave. Her pulse was about 200 and irregular. The mæmle sound of the heart was feeble. A vaginal examination showed the dila-

tation complete and the head on the perineum.

Under gas anesthesia, she was delivered by low forceps of a dead baby. By the use of normal saline by hypodermoclysis, Proctoclysis of 5% glucose and soda, Digitalin gr. 1-150, the quality of the pulse improved and the rate dropped to 140. The temperature, however, later rose to 103.2, and the patient died 6 hours after delivery.

On studying this case in retrospect, I believe the decision against the Cæsarian Section and accouchement force was a wise one, but I am sure the delivery was too long postponed. It should have been accomplished the moment dilatation was complete or as soon as the fetal heart showed signs of distress. I should not have left the hospital before the irrigation and pack were given and I should have requested reports by phone at frequent intervals during the night. After all is said, the responsibility of such grave cases rests with the attending physician and should not be left upon the shoulders of a less experienced person. The rise in pulse rate from 80 to 130, following the withdrawal of blood and the colonic irrigation, should have contraindicated the use of the hot pack. Certainly valuable time was lost between the completion of dilatation and the descent of the head into the pelvis.

---

**Wounds of Vessels**—Rieder analyzes the experiences at Hamburg with 117 wounds of arteries from trauma or operation, in war and in peace times. Small arteries, especially the paired arteries on the limbs and the external carotid, can be safely ligated. An attempt to suture, with or without a plastic operation, should be made, unless infection contraindicates suturing. When ligation was the only resource, and the ligature was applied very slowly, to ward off thrombosis, gangrene developed in only 2 of 19 arm ligature cases (both subclavian); in 3 of 19 femoral ligature cases, and 4 in 10 popliteal. Encephalomalacia developed in only 6 of 36 cases of ligation of the carotid, and in these cachexia or advanced age had rendered the prognosis graver. Improvement of the collateral circulation was realized, before the operation, by systematic compression. He expatiates on the direct life-saving action of 10 per cent. solution of glucose by the vein after extensive loss of blood; it supplies glycogen to the heart muscle, and improves the circulation. The longer the interval between the injury and the operation, the better the prognosis.

---

**Plastic Operation to Enlarge the Bladder.**—Cicatrical contraction after a severe gangrenous cystitis was causing serious symptoms from the inadequate capacity of the bladder. Scheele enlarged the bladder by fastening to it a loop of small intestine sutured in the form of a ring.



## ORIGINAL ARTICLES

CARCINOMA OF TESTIS: CARCINOMA  
OF URINARY BLADDER: CASE  
REPORTS\*

By CHARLES W. JEFFERSON, Louisville

Case 1. C. L., a male, aged twenty-eight years, was under the treatment of a local physician for two months with the mistaken diagnosis of "Neisserian epididymitis." There being no improvement he was then referred to a well-known genito-urinary specialist, and was under his care for about a month. The latter also failed to make a correct diagnosis, and stated as the reason for non-improvement that "the man had continued to indulge in promiscuous sexual relations." The symptoms had thus existed for three months when the patient came under my observation.

Physical examination revealed well-marked left-sided orchitis; there was no involvement of the epididymis. There was no history of trauma. The testicle was about the size of an orange and a diagnosis of probable malignancy was made. The patient was removed to the Deaconess Hospital where orchidectomy was performed on August 30th, 1921, as much as possible of the cord being removed. Palpation disclosed no enlarged lymphatic glands in the inguinal regions or elsewhere. He made a prompt and satisfactory operative recovery and was dismissed from the hospital September 10th.

The patient remained apparently well until the following December when he had an attack characterized by fever and pain in his back which persisted four or five days. Internal administration of the ordinary coal tar preparations caused subsidence of these symptoms. In January, 1922, he had a similar attack lasting a few days. There was then considerable increase in severity of the pain throughout the lower part of his back. In March he had another and more severe attack which persisted two weeks.

When seen in April he was in a serious condition, having become emaciated, toxic and cachectic in appearance. Examination disclosed supraclavicular, axillary and inguinal adenitis, and he had developed severe secondary anemia as demonstrated by blood examination. Roentgen-ray investigation (Dr. Fuget) revealed a large mass apparently between the heart and the chest wall. It is worthy of note that the patient had never complained of pain in his chest, but there had

at all times been more or less discomfort in the lower lumbar region.

In July intensive x-ray treatment with the new high-voltage machine (Drs. Keith & Keith) was instituted, and it was remarkable how quickly the mediastinal mass and the enlarged glands disappeared. In August the patient had a relapse, and early in September was given another series of treatments with the high-voltage x-ray apparatus. However, despite this treatment emaciation rapidly progressed, cachexia and anemia became more pronounced, pulmonary hemorrhages occurred, coma supervened, and the patient died in October evidently of metastasis and general carcinomatosis.

The specimen removed was submitted to the Louisville Research Laboratory for examination and the following report was made: Testis about the size of a large orange, very firm, with numerous engorged blood vessels. Sections show a rather firm mass with numerous hemorrhagic areas, small white areas, also areas of necrosis. Microscopical sections show masses of large round cells with vesicular hyperchromatic nuclei and very little stroma; other areas show small undifferentiated cells. These findings—I think—are characteristic of embryonal carcinoma. (J. D. Allen.)

Case II. L. W., a male, aged sixty-two, date of first observation, August 31st, 1922. The patient complained of pain in the lower abdomen and hematuria following the lifting of a heavy piece of iron. Upon careful questioning, however, the fact was developed that small amounts of blood had been noted in the urine at intervals for a period of two years. Hemorrhage was especially noticeable after any unusual muscular exertion. Administration of the ordinary drugs had no effect and the hematuria continued.

Examination showed that the vesica urinaria was greatly enlarged, extending upward almost to the umbilicus, in outline markedly resembling a pregnant uterus. Cystoscopic examination was impossible and the diagnosis was uncertain.

Complete obstruction to the urinary outflow finally supervened and the patient was taken to the hospital September 25th where suprapubic cystotomy was performed the following day for the purpose of securing drainage. By that time he was in a desperate condition with collapse imminent because of continued hemorrhage, urinary obstruction and consequent toxemia. He was emaciated, anemic and cachectic. Upon incision the vesical wall was found to be an inch and a half thick. Lateral abdominal pressure caused extrusion through the incision of nearly a quart of dark, grumous, disintegrated material, evi-

\*Read before the Jefferson County Medical Society,

dently from sloughing of the vesical interior. Some of this material was submitted to Dr. Stuart Graves for examination and his pathological diagnosis was: "A very malignant type of carcinoma of the urinary bladder."

Copious suprapubic drainage continued and the patient died November 7th. The entire bladder was involved in the carcinomatous process.

Before the suprapubic operation was performed roentgen-ray examination (Dr. B. W. Bayless) showed that the bladder extended upward to the umbilicus, the walls were greatly thickened, and in outline the viscus closely resembled a pregnant uterus.

Within two weeks after the operation the carcinomatous process had extended through the abdominal incision and involved the skin surface upward beyond the umbilicus.

A week before death the patient's only remaining eye became blind, probably due to the intense toxemia from general carcinomatosis. The other eye had been destroyed by accident many years previously.

### DISCUSSION

**D. Y. Keith:** In the first case reported by Dr. Jefferson there was a nodule in the chest wall much larger than the one shown on the plate he has exhibited; there were also some smaller nodules in the axilla and the inguinal regions. The patient was given deep x-ray treatment over the inguinal regions, lumbar area, chest and axilla. Pain was relieved and he remained in comparative comfort during July and August. However, the large nodule in the chest wall did not completely disappear. The last treatment we gave him was in September. Metastatic involvement was rapid and at our latest examination (September) there were at least twenty-five nodules over the chest varying in size from a peanut to a fresh prune.

In this case we were dealing with general metastasis, and to produce any relief it would have been necessary to apply the x-ray to the entire trunk from the testicle to the head. Dr. Jefferson spoke of the fact that the patient complained only of pain in the lumbar area. The probability is that nodules in the lumbar lymph nodes were larger than those in the chest.

In dealing with generalized metastasis temporary relief is all that can be expected from radiation.

**C. G. Hoffman:** Many varieties of testicular neoplasms have been described and the classification is bewildering. Some authors claim that at least ninety per. cent of testicular tumors are carcinomatous in type. On the other hand Ewing contends that every testicular tumor is teratomatous in its early stages. He also claims the reason for confusion in classification is that sec-

tions have been taken from different parts of the tumor, one portion showing carcinomatous cells, another sarcomatous cells, etc. On this basis it would seem that all such neoplasms are primarily mixed tumors. It is interesting to note in the case reported that the tumor was a primary carcinoma.

Vesical neoplasms vary greatly in size. I have a patient with vesical carcinoma under observation at present, not as far advanced as the one described by Dr. Jefferson, but the entire vesical cavity is incorporated in a cystic malignant growth. The differential diagnosis in some of these cases is difficult, because not all the tumors are sessile, the surfaces being flat as viewed through the cystoscope. Some are pedunculated with no evidence of induration at the base. Rectal palpation is of considerable assistance in the diagnosis, as frequently induration of the bladder wall can be felt. The surface of the tumor may present villi simulating papilloma which is also difficult to differentiate from malignancy. In taking specimens from bladder tumors for pathological examination the same condition is encountered in testicular tumors, that is portions of the tumor surface may be benign, whereas the interior may be malignant, and vice versa.

In the case reported, as Dr. Jefferson has stated, there was no indication for treatment except suprapubic drainage. The urinary outflow was obstructed and cystoscopic examination impossible. Even in small malignant tumors of the bladder I believe we should resort to radium treatment primarily instead of using palliative measures, fulguration, etc. If the tumor is malignant fulguration is ineffective and may hasten growth of the neoplasm. Radium should be used primarily rather than secondarily in such cases.

Neisserian infection seldom involves the testis proper, and anyone with ordinary experience, knowing this fact, could have readily differentiated epididymitis from orchitis. If the testicle is enlarged and firm one is justified in the supposition that the patient has either syphilis or tumor. To determine whether it is syphilis, before resorting to surgery, it may be well to utilize the therapeutic test. After a few weeks of treatment if there is no improvement then the case should be considered as one of true neoplasm and the patient be subjected to immediate operative treatment.

If Dr. Jefferson's patient had been handled in that way from the first, there might have been a slight chance, provided metastasis had not already occurred, of prolonging life.

**Oscar Bloch:** I am particularly interested in the subject of testicular tumors from a diagnostic standpoint. A recent experience caused me to realize that it is very difficult sometimes to make an accurate clinical diagnosis under certain circumstances. A man with a four plus Wasser-



mann consulted me because of a hard tumor of the left testis which was causing him considerable pain and annoyance. He had been given anti-syphilitic treatment but was not improving and asked me to remove the testicle which I did, feeling that, even if it were syphilitic, the operation was indicated. Much to my surprise report from the pathological laboratory showed the tumor to be a sarcoma.

Sarcoma of the testicle often travels through the lymph channels, contrary to the general rule of blood stream dissemination. It is sometimes impossible to differentiate between sarcoma and carcinoma of the testicle without a pathological examination.

**C. W. Jefferson (closing):** In the first case reported the pathological diagnosis of embryonal carcinoma was made by Dr. J. D. Allen. The concensus of opinion seems to favor the theory that all testicular malignant neoplasms are primarily teratomatous in type. Many varieties and combinations of different types have been described:

After metastasis has occurred in the lumbar lymph nodes I do not see how castration or anything else will do any good. If the diagnosis could be made early and the patient operated upon immediately there might be some chance of at least a clinical cure.

The lymphatics of the testis begin between the seminiferous tubules and combine to form several trunks which follow the blood vessels into the pelvis and terminate in the lumbar lymph nodes. Metastasis may occur early or late in the course of the disease, and extension probably occurs through both the lymphatic and blood channels.

An extensive surgical procedure has been advocated by Hinman and others for the cure of testicular malignancy. An incision is made from the external inguinal ring to the costal margin, the peritoneum is carefully stripped away from the lower pole of the kidney downward and the entire lymph-bearing area dissected and removed en masse. If I am not mistaken this operation has been performed between forty and fifty times. Some of the patients lived four or five years afterward, some perished from recurrence within a year, others died from post-operative complications, some disappeared from observation and the ultimate outcome is unknown.

In my opinion orchidectomy is indicated in every case of testicular tumor. Benign growths involving the testis are prone to become malignant, and if a syphilitic tumor has been removed the patient has not been harmed. I believe all testicular tumors, whether syphilitic, tuberculous, benign or malignant, should be promptly removed.

As remarked by Dr. Palmer, there should be no difficulty whatever in differentiating between epididymitis and orchitis by careful palpation.

## CLARK COUNTY MEDICOS AND THE WORLD WAR\*

By SAMUEL J. ROSS, Winchester

The recent World War proved conclusively that Americans can stop whatever they are doing and fight and after the fight, quickly forget they had ever heard of such a thing—so can Clark County physicians. They can be most amiable until some one has done or said enough to call for a fight then they go into battle and as soon as it is over they forget all about. It has been reported that it makes but little difference to them whether the fight is amongst themselves or with some outsider. As to the outcome of their encounters, the only time ever recorded that they have gone down in defeat is the engagement told of herein.

Men and groups of men have, in many instances, received good and bad reputations which they did not deserve. That happened Clark County medicos a year or so ago but it turned out to be a bad instead of a good reputation. It beame noise about, outside the three-mile limit, that Clark's M.D.'s were breaking the Hindenburg line over each others heads, metaphorically speaking, so it was decided upon that intervention was necessary. After our supply of munitions was cut off, certain foreigners in the profession from Louisville and Lexington, who were evidently more brave than others of their groups ventured into our No Man's Land and after we had congregated around a good feed and devoured it, much in the same fashion as we were previously reported to have devoured each other, we were pounced upon by these worthy gentlemen, each taking his turn.

As it is recalled, these strangers whose names were something like Louis Frank, J. A. Stucky and Julian Estill and a couple of others they had with them, began bombarding our line and the onslaught was so intense with no intermission, that there was nothing else to do but up with the white flag, not white feather, for when we are licked, we admit it without any resort to cunning or cowardice. In other words, we were as game as we were before these warriors came and although we were licked decisively, we never once showed the white feather.

Like all vanquished nations, our beloved Fatherland was placed under a foreigner whose name sounded something like Julian Estill, who we must admit, was very considerate of his subjects. His kindness and general demeanor towards us won us over so completely that we simply forgot that he was

\*President's Address before the Clark County Medical Society.

a foreigner. Shortly after the beginning of his reign, he began treating us as though we were his equal. That was the last straw, for kindness will lick the Clark County M.D.'s when machine gun bullets never could.

But like any other grown up children, we like to have something said of how nice we are, when we are nice, as we are, now, just as we disliked the licking we received on that memorable December 21st when a foreign foe took our scalps. For now, we do not scrap with each other, knock each other, and are putting on a drive for a 100% membership in our Society, have stopped referring our patients to some one out of town when we have plenty of capable physicians at home who can do it. Neither do we knife each other to our patients. Physicians of our various groups have but the kindest feeling towards members of our other groups. Any of us are perfectly safe to meet any physician in Clark County, for he will not knife either before, during or after the consultation. We have understood that in some localities when a member of one group is called in consultation with a member of a rival group that it is a foregone conclusion that the lingual scimitar will be used freely and even openly. Of course none of us would be any sort of judge about such conduct for the few that ever indulged in such tactics have long since forgotten how it is done. Be it said here and now that whatever we have been accused of, if we were accused, could be far overshadowed by our many virtues.

In the event that war should be declared in any other county in Kentucky, it is unnecessary to send for Marshall Foch or General Pershing. Write us (better wire) and we will send you the address of Louis Frank, Julian Estill and J. A. Stucky. Do not store up a lot of ammunition for they will never give you a chance to use it.

---

**The Supposed Cell-Free Transplantation of Chicken Sarcomas.**—Teutschlaender discusses the possible explanations of tumors which are transplantable after filtration. The specificity of the new tumors speaks strongly against a parasitic theory: A chondro-osteosarcoma develops cartilage even in places where no such tissue could be present. His investigations convinced him that presence of cells in the filtrates is not impossible, as he assumed before. On the contrary, it is the most plausible explanation. It cannot, however, be denied that transplantation by filtrates is an interesting fact.

## A CASE OF SCLERODERMA\*

By B. W. BAYLESS, Louisville

Mrs. L. A. N., white, married, two children, aged 61. She had the usual diseases of childhood, no serious illness since except several attacks of so-called rheumatism.

About five years ago she noticed the skin of her hands was getting quite dry and at times would crack very much. It would seem to improve under treatment of ointments but never was normal and it was usually more marked in winter than summer. She has tried thyroid extract without benefit.

At present she has a marked case of scleroderma of both hands, chest and abdomen. The skin of both hands is very dry, hard and tends to crack in places. The skin has contracted so much over the tips of the fingers that the pulp has been more or less absorbed. The hands feel as if she had on a tight pair of gloves. The skin of the forearms is not affected. The changes are not so marked in the skin of the chest and abdomen but is dry and glazed. The feet do not show any changes in the skin. There is practically absence of sweat in the affected areas. The finger nails are two or three times the normal thickness.

About two years ago she noticed some small hard nodules on the back of her wrists which have gradually increased in size. They are movable, very hard and only one of them is slightly tender which evidently presses on a nerve.

X-ray examination shows a large number of calcareous nodules in both hands, the largest one is in the tip of the right middle finger and is the size of a hazelnut. This one appears attached to the bone, but think it only surrounds the bone as none of the others are attached, it shows through the skin in several places as blanched areas and one place it protrudes through. Most of the nodules are in the subcuticular tissue, but some of the small ones seem to be in the skin. All the bones of the hands show atrophy and there is atrophic arthritis of all the articulations of the fingers. The distal end of the middle phalanx of the left little finger has been absorbed and what remains is very sharp nearly protruding through the skin, the terminal phalanx is dislocated. The ungual extremities of all the phalanges show absorption, it is more marked in the thumbs and index fingers, this is evidently due to contraction of the sclerotic skin. The great toes show several calcareous nodules but are not so numerous or so large as in the hands. There are no nodules to be felt under the skin of the chest and abdomen.

---

\*Read before the Louisville Medico-Chirurgical Society.



## BILATERAL PARALYSIS OF FIFTH CRANIAL NERVE: CASE REPORT\*

By JOHN J. MOREN, Louisville.

Mr. F. S., aged about thirty years, healthy and a steady worker, with a good personal history, was seen October 12th, 1923, complaining of paresthesia of both fifth nerves. This was described as if being "tickled with a feather."

The history of his illness began about the 20th of September when it was noticed he was more drowsy and inclined to sleep after returning from work. He complained of no pain. September 22nd and 23rd he had a little fever and during this time his wife thought he was slightly delirious.

At 2:30 A. M. September 27 he had a severe general convulsion, after which the tickling sensation appeared in the mouth, nose, face and ears, and to some extent downward along the front of the neck. His wife states that at this time he apparently had difficulty in recognizing people. He would not answer questions by voice, but did answer by nodding his head. It seems that the sound of his voice tickled his throat.

Two weeks after this attack he had a second convulsion, but his symptoms were not aggravated. By October 11th he had no difficulty in swallowing. He had used only liquid foods because solid foods excited the tickling.

Physical examination showed rather a slow response to light and accommodation. All other reflexes appeared natural. There was hyperesthesia over the distribution of both fifth nerves. A slight touch excited the tickling sensation. He talked clearly, moved about the room naturally, and presented no symptoms of consequence.

On October 17th he reported to the office and the tickling had practically disappeared, and I was able to test the whole fifth nerve area, which showed nothing abnormal. He has had no pains or aches, eats and sleeps naturally. The only difficulty seems to be that he cannot recall instances that occurred prior to the first attack on September 27th.

Blood Wassermann negative; blood pressure 135 systolic.

\*Read before the Louisville Medico-Chirurgical Society.

**Tardy Injury of Spinal Cord from Congenital Scoliosis.**—Jaroschy describes his operative treatment in two cases, and compares them with the few similar cases on record. In his cases the severe spastic paraplegia of the legs developed at the ages of 14 and 17. Laminectomy cured the paraplegia completely in one case, and materially improved conditions in the other, in which the paraplegia was of longer standing.

## SYPHILITIC MENINGITIS, REPORT OF A CASE\*

By E. E. BUTLER, A.M., M.D., Louisville

Cases of neuro-syphilis, as nervous syphilis is now termed, have always been of much interest to me. The one which I am about to report impressed me as being of unusual interest. Here we have a case in which syphilis was present for about eight years, prior to its fatal termination. During this time the patient had apparently received the usual amount of salvarsan and mercury injections, and yet he developed meningitis.

Why one syphilitic should have neuro-syphilis while others do not, who have had the same plan, kind and amount of treatment, has never been definitely known. It is estimated that about 5% of those infected with syphilis develop neuro-syphilis.

Several theories as to the cause of neuro-syphilis have been advanced, namely:

- (1) Special strain of spirochaetes may have a predilection for the nervous system;
- (2) The individual himself may show a special neurotic predisposition, the spirochaetes acting as the exciting cause;
- (3) Trauma, excessive wear and tear of the nervous system, sexual or alcoholic excesses may be the predisposing cause;

In the case to be reported, I think we will all agree that the latter theory will apply. The patient gave a history of having worked long hours for many years as a railway mail clerk. His duties were of such a nature that he was under a mental strain much of the time, while on a "mail run." He frequently stayed on duty eighteen hours, and then after resting ten to twelve hours, would resume his work. While performing his duties as a mail clerk, he was frequently rushed in the assorting of mail, in order to get the mail sacks ready to throw off the train at the various stations passed, some of which were only a few miles apart. I am also informed that the patient was subject to alcoholic and sexual excesses.

In regard to the diagnosis of neuro-syphilis, our best aids are the symptoms, physical findings and the complement fixation test on the spinal fluid. Of less importance is the globulin test on the spinal fluid and the spinal fluid cell count. In all forms of neuro-syphilis, the globulin is positive in over 90% of cases, and there is an increase in the cell count above the normal number of eight to ten cells per cu mm.

According to authorities, there are two types of syphilitic meningitis—basilar and

\*Read before the Jefferson County Medical Society from the records of the Solomon Clinic.

meningitis of the convexity. The case to be reported is apparently of the basilar type. The history and symptoms are characteristic of this type. Intense headache was complained of, which we look upon as being an early symptom; it is usually more intense at night, though it often persists in the day time. In this case, as well as in the majority of cases, some degree of mental impairment is noted, which may in some instances merge into definite dementia. Memory is poor, and there is a peculiar stupor. At times, there may be attacks of violent delirium. This patient became violent, refusing food and medication, and remained in this state until death ensued.

The physical findings are not always clear cut. Patient usually appears apathetic. Pupils may be regular or irregular, but rarely do they fail to respond to light and accommodation. Reflexes—most frequently there is an exaggeration of the knee jerk, but no Babinski, Oppenheim or ankle clonus. Kernig's sign is of no diagnostic importance, except as an aid in including the cerebral spinal type of meningitis.

Case No. 554—Male, aged 39 years; occupation railway mail clerk. Patient brought to Louisville on December 16th, 1921, by two of his brothers and the attending physician.

Symptoms: (1) Inability to concentrate; answers questions very slowly; seems to be unable to remember recent events; (2) Easily disturbed or irritated; very nervous, restless; (3) On a few occasions, has had hallucinations,—thought someone tried to poison him; (4) Severe headache; (5) Pain in dorsal region of back.

History of Present Illness—Prior to September 23d, 1921, patient was in apparent good health. For the previous fifteen or sixteen years, he had held a position as railway mail clerk; this was a very hard and nerve racking task, requiring long hours. On September 23d, 1921, while at a County Fair, went for an aeroplane ride with a young lady friend; this date he gives as the beginning of his present illness, stating that from the time he ascended into the air until the plane landed, he remembers nothing of what happened except that he nearly froze. Several days later, he returned from his usual mail trip feeling very weak and nervous, with chills and sweats, and was unable to resume work. He was confined to bed several days with the foregoing symptoms, after which he paid a visit to a nearby barber shop where he met a friend, who told him, in the course of conversation, that he acted as though he were crazy. He again returned to bed, and the symptoms have persisted until the present time (December 16th, 1921.)

Marital History:—Married at age of 26; wife died in 1918 of influenzal pneumonia. No children; wife had one miscarriage, at about the three month period.

Venereal History:—Gonorrhea at age 20; apparent cure in three months without complications or sequelæ. Luetic infection, eight years ago, for which he has had treatment at various times; recently under treatment by an Evansville physician—neo-salvarsan and mercury injections; he had been told that he was about well, that his Wassermann was "only one plus."

Family History:—Father died, at age of 54, of pneumonia; mother, aged 63, in good health; has two brothers, both in fine health; one sister died in infancy.

Hereditary History:—Negative for tuberculosis, nephritis, syphilis, malignancy, nervous and mental diseases.

Patient Answers the Following Questions:—Sleeps very poorly; appetite variable; bladder function normal; stools very foul, bowels very sluggish; habits are not very good—moderate user of alcohol, smokes cigarettes, fifteen to twenty daily; coughs very little, no expectoration; no oedema; no dyspnoea; night sweats recently; backache as described; marked headache as described; digestion is only fair; no belching; no heart burn; no bloating.

#### GENERAL PHYSICAL EXAMINATION

Patient is a fairly well developed, poorly nourished white male, aged 39 years; height 5 feet 9 inches; weight 116 pounds, usual 130, best 142 pounds, two years ago.

Head: Teeth are bad, gums show advanced pyorrhea alveolaris; tongue very coated, moist, no tremor; throat not remarkable; eyes, pupils react to light and accommodation; slight deafness, right ear.

Neck: Shows no scars or enlargements; thyroid gland not enlarged.

Bones and Joints: Negative.

Glands: None palpable, except inguinals which are bilaterally enlarged and discrete.

Mentality: Sluggish; patient shows marked evidence of mental deterioration and intoxication.

Reflexes: Patella tendon slightly exaggerated; cremasteric and Romberg negative; pupils react to light and accommodation; Babinski and Oppenheim negative; negative ankle clonus.

Thorax (Physical):—Fairly good development and nourishment; no scars or depressions; respiratory movements normal.

Heart: Rate slightly accelerated; rhythm normal; no adventitious sounds; apex beat palpable in fifth interspace,  $\frac{1}{2}$  inch within left nipple line.



Lungs: Negative physical findings.

Abdomen (Physical):—Musculature fair; moderate amount of adipose tissue; no areas of abdominal tenderness or guard.

Rectum:—A few small external hemorrhoids; prostate gland normal in size and consistency.

#### CLINICAL AND LABORATORY FINDINGS

At 4:30 P. M. December 16th, 1921, temperature 101° F., pulse 110, diastolic 80. blood pressure—systolic 110, diastolic 80.

Urine:—Three specimens examined showed trace of albumin and an occasional hyaline and finely granular cast; otherwise, no deviations from the normal.

Blood:—Hemoglobin (Tallquist) 80%; red blood cells per cu mm. 4,630,000; white blood cells per cu mm. 12,250, of which 77% were polymorphonuclears, 19% lymphocytes, 3% transitionals, 1% eosinophiles, no basophiles, no parasites and no pathological cells found.

Wassermann (Blood):—Positive, 4 plus.

Wasserman (Spinal Fluid):—Positive, 4 plus.

Spinal Fluid:—Globulin positive; cell count, 64 cells per cu mm. When obtained, fluid was clear and did not apparently seem to be under pressure.

#### SUMMARY OF THE FINDINGS

(1) Syphilis—central nervous system—basilar meningitis;

(2) Nephritis, slight;

(3) Pyorrhea alveolaris;

(4) External hemorrhoids.

Following the examination which was made on December 16th, 1921, patient was sent to the Deaconess Hospital for further observation. On the following day, the nurse on duty reported that patient was very unruly during the night, and for this reason he was transferred to a local sanatorium. December 18th he was very restless, would not take medicine or food, would not remain in bed; no alvine evacuation had occurred. December 19th, patient broke with fists five panes of glass from window and became so unmanageable that the sanitarium attaches were compelled to shackle him; the usual sedatives failed to give any relief. On December 20th, he continued to be unmanageable, refusing food and medication could only be administered hypodermatically; sedatives were administered intravenously but without effect. Patient continued in this manner until December 25th, at which time a noticeable change took place—pulse increased to 130, respirations rapid, continued to refuse to swallow, dying on December 26th.

The symptoms and physical findings enumerated may be called the general symptoms of syphilitic meningitis. There are also so-called localizing signs, due to formation of exudates at the base of the brain. These consist mostly of paralyses or palsies of the several cranial nerves situated at the base of the brain. The optic chiasm and ocular nerves are often affected. Involvement of the optic chiasm in its anterior portion gives rise to bitemporal hemianopsia—blindness in both outer fields of vision.

The cranial nerves most frequently affected are the third and sixth. The involvement of a single branch of the oculomotor may be the sole symptom of a basal process. The palsy may be slight, consisting of an insignificant ptosis or a tendency to strabismus. Seventh nerve paralysis is not uncommon, in fact, a combined unilateral facial palsy, unless caused by trauma, should always suggest syphilis involving the central nervous system.

#### DISCUSSION

**W. E. Gardner:** With a spinal fluid cell count of 64 and a positive Wasserman in a man of thirty-nine, raises the question at once whether this might have been a beginning paresis. It is difficult to tell just how much meningeal involvement you may have in a case of this kind. This man was in a deteriorated mental state, with exaggerated reflexes, he had some delirious hallucinations and became violent,—these signs are indicative of paresis in the early stages. Of course in nearly all cases of early paresis there is some meningeal involvement.

I would like for Dr. Butler to tell us in closing why he thinks this man had meningitis rather than possibly a beginning parenchymatous degeneration of the brain. It seems to me that all the symptoms are at least suggestive of early paresis.

We would certainly reflect a higher cell count in the spinal fluid in meningeal involvement, even of the luetic type. Sometimes as high as 200 to 300 cells.

**Wm. A. Jenkins:** I do not believe it would be possible for us to say on the basis of the clinical evidence here presented just what is the type of the pathology or its exact location, in the case reported. About all we are justified in saying is that the man had syphilis with particular involvement of the nervous system. However, the modern well equipped serologist tells us that he has a means by which the differential diagnosis in cases of this kind can be rather definitely determined, i. e., the question of paresis positive or negative can be definitely determined. I refer to the colloidal gold test of Lange. I do not know whether Dr. Butler tested the spinal fluid of his patient by this method or not, the

method is in common use in this locality and is supposed to be of decided value, in differentiating the various types of brain syphilis. Clinically speaking the case reported looks very much to me like one of beginning paresis, however we will never know definitely unless a post mortem report was obtained.

**Lecln L. Solomon:** I was permitted to see this man on his arrival in Louisville and had opportunity to occasionally observe him, until he died. His examination took place at the Clinic, where he was under the conjoint observation of the members of the Staff, for a period of about five hours only. The important factors are: (1) The long time, which elapsed between the inception of his supposed syphilitic infection, eight years, and the onset of the terrific fatal malady, which immediately followed his arrival at the Clinic. (2) Only a few weeks, before he took to his bed, he was active as a railway mail clerk. (3) The patient had received little or no treatment, during these eight years, except recently (preceding his arrival in Louisville) when he "was given vigorous intravenous medication at the hands of an Indiana physician." (4) The patient had been a heavy drinker and a heavy smoker; he had led an intemperate sexual life. (5) He had been engaged in a nerve-racking business, emphasized by his brother and by the physician, who accompanied him to Louisville. We are told that he had lost practically no time, as railway mail clerk, during a period of many years; that he had a train route, requiring him to be unusually active in getting up mail sacks and having them ready to be thrown off at proper places, and that he had a wonderful record for efficiency, etc.

From the history of the case, it would appear that the nerve strain was a likely factor in undermining the patient's health, and that an aeroplane ride, described by the reporter of the case, was the probable immediate exciting cause of his ailment. It is explained, that the patient had never before been in an aeroplane. Though the weather was warm, cold air currents were encountered, which chilled the occupants of the car to the bone. Our patient was greatly frightened, upon arising from the ground, his excitement and fright increasing, throughout the ride; he feared for his own life and for the life of a lady friend, who accompanied him. On returning to the ground, "he was entirely beside himself," seeming never afterwards to recover from the shock of the ride. Reading the history, one must be impressed, that the aeroplane ride was a distinct etiological factor in precipitating the onset of symptoms.

As the account was told to me, I recalled a very unusual story, which was yearly recited to his classes at the Boys High School by the late Professor Maurice Kirby, principal of the school. It seems that an intimate friend of Professor

Kirby, who had never been to Niagara Falls, invited the Professor to accompany him. I repeat the story tonight, as I heard it, in order to emphasize the influence of excitement and strain in suddenly disturbing mental balance, recovery thereafter never being perfect.

As they approached the falls, Professor Kirby observed that his friend spoke in a louder tone than seemed necessary,—much louder than he found it necessary to speak in reply. As they came closer to the Falls, Professor Kirby was suddenly grabbed by his companion, who, in a loud tone, called out:—"Kirby, let's jump in."

It was easy to see the man had lost his reason. Professor Kirby, who was a learned psychologist, explained the mental upset as the result of two factors,—first, the grandeur of the spectacle, presented by the Falls and second, the terrific roar of the waters. Previously, this man was known to be possessed of a stable nervous system; his mental poise and equilibrium had been unquestioned.

Though it has no bearing on this case, it is interesting to note how the resourceful Kirby, realizing that he would likely be whirled into eternity, unless he could find some means of escape, met the situation. Not a few of the physicians, present tonight, remember the old Principal of the Boys High School as a cripple, walking with a cane. Though he was a powerfully built man, he was no match for a crazed individual.

It occurred to Kirby to appeal to the religious fervor of his companion, whom he knew to be an intensely devout fellow. He asked him, in a low, quiet voice, wholly inaudible, if he was prepared to meet his Maker, stepping up closer to him and repeating the question. And without waiting for an answer, he followed the question with: "I must say to you, my friend, that I am wholly unprepared to meet my Maker, though I am willing to take the leap with you, if you insist." Meanwhile, Kirby slowly led the crazy man away from the din and the noise of the cataract, until a point had been reached, where, without further ado, both knelt in prayer. Kirby accomplished his purpose. The fatal leap was not taken.

It is interesting to note that the shock to the nervous system was so great, that Professor Kirby's friend never entirely regained the same poise and balance, for which he was previously known.

Similarly, and this is the point I desire to emphasize, our patient takes a ride in an aeroplane, he becomes greatly excited and terribly frightened; he returns to the ground, chilled; he falls ill, finally passing into the stage, described by Dr. Butler in his report of the case this evening.

A very interesting fact concerns the accepted medication of neuro-syphilitics. It is not essential tonight for us to argue whether the case was one of paresis or was one of an acute meningitis.



In my judgment, it was unquestionably the latter. Our examination of the patient in the Clinic occupied only five hours. At the end of the examination, the patient was apparently in good condition; he was removed to an Infirmary, where, because of his active delirium, it was impossible for further examination to be made.

I wish to emphasize the point that, as a rule, individuals who reach a late stage of syphilis of the nervous system are rarely benefitted by treatment of any kind. Whether the disease has been dormant for a time, suddenly appearing in an acute form or whether the ailment has been dormant, then gradual in its onset, there is little benefit, as a rule, in treatment, it matters not what the remedy may be. Whether Mercury or Iodides or Arsphenamine or whether all of these remedies are combined, these patients usually show little, if any, improvement.

This particular case derived no benefit, whatsoever, from treatment, although he received, according to the history, a very large amount of Arsphenamine and of Mercury, prior to our seeing him. We found a four plus blood Wasserman and a four plus spinal Wasserman at our examination.

The rapidity with which the disease progressed, after he was brought to us, is unique. He was the most violent, the most unmanageable individual I have ever seen; it was impossible to successfully shackle him; it was impossible to restrain him and keep him in bed; whatever the restriction that was put about him, he would wriggle his way out, or, by sheer force, would break his way out, finally escaping from his confines. He fought like a mad man, possessing the strength of the maniac, dying in exhaustion with a very high temperature. Eight days, from December 18th to December 26th were required for this rather well developed and well nourished man to die from exhaustion.

I repeat, it is my conviction, that Dr. Butler is right in his assertion, the man had meningitis, the exciting cause being the ride in the air and the consequent exposure, with syphilis as an underlying, predisposing factor.

**E. E. Butler (closing)** As to the diagnosis in the case reported,—as Dr. Jenkins has suggested, this is one of those cases where the diagnosis could never be proven except by post-mortem examination.

One sign that led me to believe this was a case of meningitis rather than paresis, was the fact that as emphasized in the paper his pupils continued to respond to light and accommodation. In paresis, although I confess I have not had very much experience with the disease when the patient has advanced to such a late stage, the pupils fail to respond to light.

Another point that leads me to believe this was a case of meningitis is that when we saw this man December 16th—(the only time I saw

him for I did not see him after he was sent to a local hospital)—he had a slight leucocytosis. Of course, we would not except a leucocytosis in syphilitic meningitis, unless there was a secondary bacterial infection.

Another point in favor of meningitis is the rapidity with which the disease progressed. The man had been apparently perfectly normal, then, within a short time, developed the symptoms described, living only ten days after he went to the hospital. When I saw him he could talk and answer questions intelligently, and seemingly was not in a very serious mental state. The following day he became very violent in the hospital, broke windows, fought the attendants and finally died of exhaustion as stated by Dr. Solomon.

Dr. Jenkins said that the colloidal gold test of Lange would have been a diagnostic aid. Had it been used in this case, possibly a differential diagnosis between meningitis and paresis could have been made. So far as I am aware this test is rarely used except in the large State Insane Hospitals which take care of many cases of paresis. It is a test that requires a great deal of time and many reagents. It was not made in the case reported, and I doubt if there is a laboratory in Louisville prepared to make it, without extra preparation.

Unfortunately the condition of the patient was such that it was impossible to have his eye grounds examined. If this had been possible it might have thrown some light on the case. In meningitis of the basilar type, the symptoms are produced by exudate at the base of the brain, viz., certain palsies, interference with the optic chiasm, producing bitemporal hemianopsia. The oculomotor nerve is often involved and seventh nerve paralysis is also not uncommon.

I believe our diagnosis in this case was correct, namely, syphilitic meningitis. I repeat, the patient was only under our observation for a few hours in the Clinic. Thereafter he became delirious and soon maniacal when no further examination was possible.

---

**Metabolism in Healthy, Naturally Nourished Infants and the Influence of Parenteral Infection and Intoxication.**—Malmberg, in unchanged feeding of two children, vaccinated against smallpox and typhoid, found increased elimination of fats, nitrogen and minerals, indicating effects on retention, with practically unchanged resorption. The degree of change appeared independent of the temperature, and he would change the "fever and metabolism" expression to "infection and metabolism."

---

**Presence of Cells in Membrane Filtrates of Transplantable Chicken Sarcoma.**—Jung believes that nuclei or parts of the cells can pass through the filter, because some cells are very small.

## CASE REPORT, SALIVARY CALCULUS, WHARTON'S DUCT\*

By KARL D. WINTER, Louisville

CASE REPORT—N. L., aged 19, female, usual childhood diseases excepting mumps. Chief complaint; swollen gland beneath ramus of right side of mandible. Onset two months previously and gradually increasing in size. One month after swelling was first noticed she consulted a dentist who on x-ray examination discovered a small apical abscess at root of lower right first molar tooth. The tooth was extracted and the swelling failed to disappear within the next four weeks. The tumor mass increased in size and the swelling was always greatest following the indigestion of food, it was accompanied by pain and discomfort lasting several hours and slowly subsiding only to reappear on eating. Physical examination of the floor of mouth showed the ampulla of Wharton's duct on right side to be oedematous, red and slightly raised. The right submaxillary gland was enlarged, firm in consistency and tender to pressure. The insertion of a probe in orifice of Wharton's duct on affected side produced a grating sound. Treatment consisted of injecting a small amount of novocaine  $\frac{1}{4}$  of 1% solution in the floor of mouth and making an incision 8mm in length from the orifice of the duct outward along course of Wharton's duct. A small calculus was removed and followed by gush of retained salivary secretion and the immediate disappearance of the swollen gland. Two weeks later the opening of the duct became occluded and the gland swelling returned. A fine hypodermic wire was passed into the duct on three successive days and since March 1922 the gland and duct have been normal. The concretion was a hard yellowish substance, conical in shape, surfaces were coral-like in appearance, the apex of the cone pointing toward the orifice of the duct. The calculus measured 9 mm in length, 3 mm at its base and 1 mm at the apex; its weight was 33 mgm.

HISTORY—Salivary calculi are relatively infrequent. In reviewing the literature I find approximately 300 cases have been reported to date. It is interesting to note that they should occur most frequently between the ages of 20 and 40; the earliest found in a child three weeks of age (Burdell); males are more affected than female in the proportion of 2:1. The largest salivary calculus on record weighed 236 grains and had existed for 28 years (Masterman). Buchwold and Wen-

zel found that Wharton's duct and the submaxillary gland accounted for 61.4%, parotid gland and duct 20.4%, sublingual gland and ducts 18.2% of all cases of sialolithiasis.

The composition of these calculi is organic, consisting of epithelial debris and bacteria, and inorganic consisting of calcium phosphate 69%, calcium barbonate 20% (Potties). There is also a small amount of ammonio-magnesium-phosphate found in some stones. A few cases have a uric acid center or a foreign body nucleus (Roberg). Gallipe found bacteria in all cases in the interior of the calculus.

The etiologic factor is attributed to small foreign body, tartar, food, and an increase in the total solid content of salivary secretion (Roberg).

Calivary calculi generally remain in site until removed. They are often found in the body of the gland, especially the submaxillary. Maguire reports a case of spontaneous expulsion of the calculus from Wharton's duct. Calculi were detected by x-ray in 1903 by Gerota.

Roberg has reported five recurrences out of 47 cases. He also reports 3 cases of salivary fistula out of 27 cases, the direct result of calculi. The prognosis is usually very good.

### BIBLIOGRAPHY

- Burdell—Compt. rend. de l'acad. des Sc. Paris, 1860, vol. 1, page 893.
- Masterman—Br. Med. Jr., 1901, vol. 1, page 148.
- Buchwold & Wenzel—Hale, A. S., 1896.
- Potties—Bull. de l'acad. Roy. de Med. Melge, 1897, page 838.
- Roberg—Annals of Surgery, 1904, vol. 39, page 669.
- Gallipe—Compt. rend. d'la Soc. de Biol., 1886, pages 116 and 377.
- Maguire—Br. Med. Jr., 1901, vol. 1, page 825.
- Gerota—Dental Cosmos, Jan. 1903.

### DISCUSSION

**D. M. Casper:** My experience has been a little different than stated by Dr. Winter in regard to the prognosis in cases such as he has reported. I recall one patient, a young girl, who had a salivary calculus, and the family physician opened the duct to remove the concretion, unwisely making his incision from the outside. The calculus recurred in the same place two or three different times. When she came to me the calculus had recurred either three or four times. The girl was suffering considerably, and the parents were very anxious that something be done. On account of the stenosis of the duct I suggested that the best thing would be to remove the gland. This was done and there was no further recurrence. I am aware of other cases in which the calculus recurred two or three times after being removed.

\*Read before the Jefferson County Medical Society.



**Karl D. Winter (closing):** In the case reported removal of the calculus was very simple. In reviewing the literature on the subject I found the complicated cases were generally those where the calculus was in the body of the gland. Suppuration and salivary fistula sometimes complicate removal of a calculus within the gland. The majority of authors believe that removal of gland is only satisfactory method of dealing with intra-glandular calculi.

---

## BOOK REVIEWS

---

**Clinical Diagnosis**—A text book of clinical microscopy and clinical chemistry for medical students, laboratory workers and practitioners of medicine, by Charles Phillips Emerson, A.B., M.D., late resident physician Johns Hopkins Hospital, Associate in Medicine, the Johns Hopkins University, Professor of Medicine, Indiana School of Medicine. 156 illustrations; fifth edition, entirely rewritten and reset. J. B. Lippincott Company, London and Philadelphia, Publishers.

This book is not merely a manual for laboratory workers but is intended for medical students and for practitioners of internal medicine who may desire to supervise their own laboratories or more especially an aid in interpreting laboratory results.

Sputum, urine feces, stomach contents, blood and examination of various fluids are ably discussed.

**The Care of the Baby**—A manual for mothers and nurses containing practical directions for the management of infancy and childhood in health and in disease by J. P. Crozer Griffith, M.D., Professor of Pediatrics in the University of Pennsylvania; Physician to the Children's Hospital; Consulting Physician to St. Christopher's Hospital for Children; Member of the American Pediatric Society and of the Association of American Physicians; Corresponding Member of the Societe de Pediatrie of Paris; seventh edition, thoroughly revised. W. B. Saunders Company, Publishers, Philadelphia and London.

The author has endeavored to make this book a reliable guide for mothers anxious to inform themselves with regard to the best way of caring for their children in sickness and in health.

The hygiene of pregnancy, the methods of bathing and dressing the young infant are included in the opening chapters.

The chapters on baby's diseases has been written particularly for those mothers who are unable to have a physician constantly within call.

It contains a description of the symptoms by which we may know that disease is present, a consideration of the nursing of a sick child, a resume of the common diseases of infancy. The

book is amply illustrated, and is written in a clear, concise style.

**An Introduction to Neurology**—For students of Elementary Psychology, General Zoology, Comparative anatomy and Medicine, By C. Judson Herrick, Professor of Neurology in the University of Chicago. Just issued, third edition. W. B. Saunders Company, Philadelphia and London. Publishers Price, \$2.00.

The initial chapters comprise a brief account of the forms of the nervous system and the functional significance of its chief subdivision in general and a review of the architectural relations of the more important functional systems. Three chapters are devoted to the cortex and its functions. To facilitate ready reference a general index and glossary has been carefully prepared.

**International Clinics**—A Quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, paediatrics, obstetrics, gynaecology, orthopaedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners by leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M. D., Philadelphia, U. S. A., with the collaboration of Chas. H. Mayo, M.D., Rochester; Sir John Rose Bradford, M.D., London; Hugh S. Cumming, M.D., D.P.H., Washington, D. C.; William S. Thayer, M.D., Baltimore; John G. Clark, M.D., Philadelphia; Frank Billings, M.D., Chicago; James J. Walsh, M. D., New York; A. McPhedran, M.D., Toronto; Charles Greene Cumston, M.D., Geneva; Sir Humphrey Rolleston, K.C.B., M.D., D.C.L., London; John Foote, M.D., Washington, D. C.; Seale Harris, M.D., Birmingham, Alabama; Charles D. Lockwood, M.D., Pasadena, California; Correspondents; A. H. Gordon, M.D., Montreal and James Burnet, M.D., Edinburgh. Volume III. Twenty-third series, 1923. J. B. Lippincott Company, Publishers, Philadelphia and London.

**Perforated Gastric and Duodenal Ulcers.**—Speck reviews the experiences at the Dresden hospital with 105 cases of this kind since 1900, comparing them with 3,224 he has compiled from the literature. He estimates that perforation occurs in about 10 per cent. of these ulcers. In his 105 cases, men predominated, 2:1, and in the duodenal ulcer cases, 8:1. The clinical picture, the pathology and the outcome are discussed in detail. In 22 recently reexamined cases, 17 of the patients were in perfect health, 2 complained of oppression in the stomach, not impairing the earning capacity. Only one patient has required operation since for hernia in the cicatrix.

# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price ..... \$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

PRESIDENT  
FRANK BOYD ..... Paducah

PRESIDENT-ELECT  
J. RICE COWAN ..... Danville

VICE PRESIDENTS  
C. W. DOWDEN ..... Louisville

J. G. FOLEY ..... Pineville

E. G. THOMAS ..... Benton

TREASURER  
W. B. MCCLURE ..... Lexington

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL ..... Louisville

LEWIS S. MCMURTRY ..... Louisville

W. W. RICHMOND ..... Clinton

ORATOR IN SURGERY  
L. WALLACE FRANK ..... Louisville

ORATOR IN MEDICINE  
E. R. PALMER ..... Louisville

COUNCILOR-AT-LARGE  
W. W. RICHMOND ..... Clinton

FIRST DISTRICT  
V. A. STILLEY ..... Benton

SECOND DISTRICT  
D. M. GRIFFITH ..... Owensboro

THIRD DISTRICT  
J. H. BLACKBURN ..... Bowling Green

FOURTH DISTRICT  
C. Z. AUD ..... Cecilia

FIFTH DISTRICT  
C. G. HOFFMAN ..... Louisville

SIXTH DISTRICT  
R. C. MCHORD ..... Lebanon

SEVENTH DISTRICT  
VIRGIL KINNAIRD ..... Lancaster

EIGHTH DISTRICT  
J. E. WELLS ..... Cynthiana

NINTH DISTRICT  
J. W. KINCAID ..... Catlettsburg

TENTH DISTRICT  
R. J. ESTILL ..... Lexington

ELEVENTH DISTRICT  
J. S. LOCK ..... Barbourville

SECRETARY-EDITOR.  
ARTHUR T. MCCORMACK ..... Louisville

BUSINESS EDITOR  
L. H. SOUTH ..... Louisville

ASSOCIATE EDITORS

R. E. SMITH ..... Henderson

V. D. GUITTARD ..... Maysville

P. K. HOLMES ..... Lexington

ASSISTANT EDITORS

UROLOGY  
C. L. WHEELER ..... Lexington

DERMATOLOGY  
S. A. STEINBERG ..... Louisville

GENERAL SURGERY  
F. T. FORT ..... Louisville

O. A. VANCE ..... Lexington

PEDIATRICS  
P. F. BARBOUR ..... Louisville

OBSTETRICS  
EDWARD SPKIDEL ..... Louisville

L. O. REDMON ..... Lexington

BYE  
ADOLPH O. PFINGST ..... Louisville

EAR, NOSE AND THROAT  
O. T. WOLFE ..... Louisville

S. S. WATKINS ..... Louisville

PROCTOLOGY  
G. S. HANES ..... Louisville

BERNARD ASMAN ..... Louisville

PRACTICE OF MEDICINE  
P. D. GILLIM ..... Owensboro

R. H. COWLEY ..... Berea

ANESTHETICS  
W. H. LONG ..... Louisville

DENTAL PROPHYLAXIS  
GEORGE H. HEYMAN ..... Louisville

## COUNTY SOCIETY REPORTS

**Perry**—The Perry County Medical Society met in a special session Tuesday, December 18, in the dining room of the Hazard Hospital. After electing officers for the coming year, a special program was rendered.

The society elected the following officers:

Dr. H. W. Gingles, president; Dr. J. W. Scudder, vice president; Dr. J. P. Boggs, secretary and treasurer, re-elected; Dr. A. M. Gross, Dr. Isaac Johnson, delegates, the former to serve one year and the latter two years; Dr. J. D. Grant, one year; Dr. Z. M. Abashear, one year; Dr. Dana Snyder, three years, board of censors; Dr. A. M. Gross, Dr. W. H. Hobbs, Dr. J. W. Scudder, committee on public health and legislation.

After the election of officers the following program was rendered:

Reading of paper on "Evolution of Medicine in Perry County," by Dr. A. M. Gross. Due to the illness of Dr. Gross, his paper was presented by Dr. R. L. Collins.

This paper presented some interesting facts: one, that Perry county is 103 years old and that for about 50 years there was no resident physician in the county. From that time until about 1893, the medical practice was done by men who had no medical college education and who are worthy of great praise for the splendid service they rendered the people. They were Drs. Combs, Stewart, Barton, Stout, Daniels, Clark, Feltner and several others whose names were not secured.

In 1893 the first graduates of medical colleges began their practice in Perry county. They were Drs. J. C. Summer, E. Kelly and J. P. Boggs and F. C. Roach.

The medical education has kept pace with the development of Perry and we now have 42 regularly practicing physicians, 32 of whom are active members of the medical society.

County Judge J. A. Smith made a response to this speech in which he especially emphasized the esteem in which the family physician is held in the community, even over that of the surgeons or specialist and the opportunity for doing good that they have. He told of the splendid work the Perry County Medical Society is doing.

Dr. R. L. Collins spoke on the "Present Status of Medicine in Perry County." He spoke with approval of the progress of sanitation in Perry; the installation of the new water works and the success of its operation; the plans for the extension of the present sewer system. He spoke of the hospital and the educational advantages it is giving and offers to the doctors, together with the incalculable benefit to the people of the community, and of co-operation and brotherly-love among the doctors of the county instead of competition



and the good that the Perry County Medical Society is doing.

Judge R. B. Roberts followed this speech with remarks on his remembrance of the old doctors, especially Dr. Bill Feltner; of the hardships of the practice of medicine in those days and the unfailing kindness of those doctors. He spoke of the passing of "penny-rile tea and worm seed syrup" and the coming of appendicitis and tonsillitis and subsequent surgery. He spoke of the progress of medicine in Perry county and stressed the need of the hospital in this field on account of the industrial activity. He believes in legislation to protect the people from quackery.

Representative Campbell told of his boyhood and the esteem and confidence in which they were held. He told of a quack who had by the use of strong medicine caused scarring of the eyelids of his sister, which had to be corrected by operation and at great expense and suffering later. He expressed his willingness to help protect the people, by laws, from unscrupulous charlatans.

The members of the Perry County Medical Society endorse the present State Board of Health and will give them their support and co-operation.

A standing vote of thanks was given to the three guests, R. B. Roberts, J. A. Smith and J. B. Campbell, for their presence and encouragement.

Refreshments were then lavishly served by the Hazard Hospital.

A motion for adjournment was made and the party departed.

**Boyle**—At a meeting of the Boyle County Medical Society, the members, eleven out of fourteen being present, strongly endorsed the present laws in regard to the State Board of Health and the State Board of Charities and Corrections in the following resolutions:

Whereas there are certain sinister influences at work to bring about changes in the present health laws whereby unqualified persons may be allowed to exploit the public health for their financial gain and also where others seek to put the State Board of Health and the State Board of Charities and Corrections into partisan politics to the detriment of the public health and those of our unfortunates who come under the care of these boards; and

"Whereas, we believe that the present laws as now administered are for the best interest of the citizenship of our state, and

"Whereas: leading health authorities of other states have pointed to our state health laws and their administration as being worthy of emulation and which other states have followed: therefore, be it

"Resolved by the Boyle County Medical Society, that we heartily endorse our present laws with regard to our State Board of Health and State Board of Charities and Corrections and also their administration and recommend that there be no change in our present laws with regard to these boards: and that a copy of these resolutions be sent to the Governor and to our state senator and representatives and given to the press."

P. C. SANDERS,  
Secretary.

**Clark**—At a regular stated meeting of the Clark County Medical Society, held at Winchester, Kentucky, on December 21, 1923, the following resolutions were unanimously adopted:

Whereas, The Clark County Medical Society wishes to go on record in the strongest possible manner in favor of the present laws relating to the State Board of Health and the State Board of Charities and Correction, as we regard any change in the same at this time to be detrimental to the public welfare. The present Kentucky law governing these bodies is regarded as a model one by the highest authorities throughout the Union and several other states have already adopted the Kentucky law and others are seeking to do so as soon as their legislative bodies convene. These two boards are non-political and rendering excellent service to the State in safe-guarding the public health and in caring for the unfortunate charges of the Commonwealth, therefore be it

Resolved, That we respectfully pray the Governor of Kentucky that he recommend to the incoming Legislature that no change be made in our laws relating to the State Board of Health and the Board of Charities and Correction, and be it further

Resolved, That a copy of these resolutions be transmitted to His Excellency, Governor W. J. Fields, for his earnest consideration, and also a copy to the State Board of Health.

GEORGE F. DOYLE,  
Secretary.

**McCracken**—The following resolution was adopted unanimously at the annual meeting of the McCracken County Medical Society:

To His Excellency, The Governor of Kentucky:

The McCracken County Medical Society, thirty-five members present, in regular meeting December 26, 1923, unanimously wish to endorse the present non-partisan, non-political laws relating to the State Board of Health and Board of Charities and Corrections.

We believe that modifications such as seems to be contemplated by Dr. Milton Board as evi-

denced by his recent article in the Courier-Journal, will be a step backward and unwise.

The two boards are now rendering excellent service to the unfortunate charges of the state, and the safeguarding of the public health.

We commend the work of these boards and respectfully ask no change in our laws relating to them.

J. T. REDDICK,  
Secretary.

**Madison**—The following resolutions were adopted at the annual meeting of the Madison County Medical Society:

To His Excellency, the Governor of Kentucky:

The Madison County Medical Society wishes to present this as an endorsement of the present laws relating to the State Board of Health and the Board of Charities and Corrections. We believe that modifications, such as anticipated by Dr. Milton Board in his recent article, will be unwise. These two boards are bi-partisan and non-political and are now rendering excellent service to the unfortunate charges of the State and are safe-guarding the public health. We pray you make no change in our laws relating to them.

J. A. MAHAFFEY,  
Secretary.

**Calloway**—The Calloway County Medical Society met December 12th and elected the following officers for the year 1924:

E. B. Houston, President; J. A. Outland, Vice-President; P. A. Hart, Secretary-Treasurer.

Members present: E. B. Houston, B. B. Keys, E. D. Covington, W. H. Mason, R. M. Mason, J. V. Starke, C. H. Jones, E. R. Blalock, J. A. Outland, P. A. Hart.

All the above paid their dues for 1923, and I am sending you check covering same. Please send cards to above.

We pledge our hearty support to the State Board of Health and the Kentucky Medical Association.

P. A. HART,  
Secretary.

**Grayson**—The Grayson County Medical Society met at Caneyville, Dec. 12th, 1923. Those present were, B. C. Wilson, G. W. Armes, L. S. Given, E. B. Dewees, N. Barnett, W. L. Ozment, C. L. Sherman and our county health nurse, Miss Jeffries. Everyone seemed to be interested in the work and the society apparently took new life.

W. L. Ozment read a paper on Acute Articular Rheumatism.

B. C. Wilson read a paper on the use of Insulin, both of which were well discussed, then new officers were elected, after which the usual

dues were collected and lastly a committee of three were appointed to investigate the building of a hospital at Leitchfield or some convenient point.

C. L. SHERMAN,  
Secretary.

**Boyd**—On the evening of December 10th, the Boyd County Medical Society held its annual dinner and election. The following officers were elected:

President, W. O. Eaton.

Vice-President, H. G. Stambaugh.

Treasurer, E. R. Fitch.

Secretary, L. H. Winans.

Censor, C. K. Kercheval.

Delegates, W. O. Eaton and W. L. Gambill.

Alternates, H. S. Swope and J. D. Williams.

The Literary Committee is planning a program for the year, which will be instructive and particularly well balanced, giving all Departments of Medical Science their place in the year's work.

LESLIE H. WINANS,  
Secretary.

**Green**—A re-organization meeting of the Green County Medical Society was called at the office of Dr. O. H. Shively, Greensburg, December 3rd, S. J. Simmons, J. C. Graham, J. J. Booker and O. H. Shively.

The election of officers resulted as follows: S. J. Simmons, President; J. C. Graham, Vice-President; O. H. Shively, Secretary.

By a unanimous vote the first Monday in each month was designated as the date for the regular meetings.

O. H. SHIVELY,  
Secretary.

**Harrison**—The Harrison County Medical Society held the annual meeting and dinner at Harrison Memorial Hospital, Dec. 3, 1923. The following members and visitors were present: J. R. Cowan, president-elect of State Society, Danville; J. R. Estill, T. M. Marks and C. A. Vance of Lexington, Wm. Grof of Cincinnati, H. C. Clark, C. H. Kendall and B. N. Comer of Falmouth, C. H. Haley of Brooksville, J. E. Wells, Martin, Swinford; N. W. Moore, Chamberlain; Rees McDowell, W. B. Moore, McIlvain, Petty and Carr.

The meeting was called to order by Dr. Carr and election of officers for 1924 was first on the program. J. P. Chamberlain was elected president, J. Martin, vice-president, B. B. Petty, treasurer, J. M. Rees, censor, W. B. Moore, Secretary.

Short talks were made by J. R. Cowan, C. A. Vance, J. R. Estill, Clark, Haley, Vance and J. E. Wells.



Win. Grof read a paper on "The Value of Routine Physical Examination." This paper was discussed by J. R. Cowan, J. R. Estill, J. E. Wells, J. Martin, T. M. Marks and W. Moore.

W. B. MOORE,  
Secretary.

**Barren**—The Barren County Medical society met in regular session at Drs. A. T. and L. E. Botts' office, Dec. 19th, 1923, at 1:00 P. M., Dr. E. D. Turner, President, in chair.

Annual report of the work of the year 1923 was read and adopted, the book showing a deficit of \$28.30. Motion was made by Dr. W. M. Ewing and seconded by Dr. L. C. Biggers, that the members be assessed to make up for the deficit, which would amount to \$1.50 for each member. Motion made by Dr. E. L. Palmore, seconded by Dr. W. M. Ewing that the County Society dues be \$1.00 per year. Both motions carried without dissenting voice.

Dr. Clifton Richards made motion, seconded by Dr. C. C. Howard, that Dr. T. J. Bullock and Dr. C. T. Grinstead be made honorary members of the Barren County Medical Society for the remainder of their lives. Motion carried unanimously.

Motion was made by Dr. A. T. Botts, seconded by Dr. Clifton Richards, that a memorial in the form of a night letter be sent to Governor Fields commending the laws governing the present State Board of Health, and asking that the same laws be maintained without change. A copy of the night letter is herein recorded. It was further ordered that a copy of this night letter be sent to Representative J. Wood Vance and to Senator J. W. Kinniard.

"To His Excellency, the Governor of Kentucky:

"The Barren County Medical Society in session today by unanimous vote endorsed the present State Board of Health and the splendid service it has rendered to the people of this Commonwealth. We pray for a continuation of the present laws governing same.

"BARREN COUNTY MEDICAL SOCIETY,  
C. C. Turner, Secretary."

The next order of business was election of officers:

President, C. W. Froedge.

Vice-President, W. M. Ewing.

C. C. Turner was re-elected Secretary and Miss Ollie Bell, Assistant Secretary.

The chair appointed Clifton Richards, L. E. Botts and C. C. Turner as Program Committee.

There being no further business to come before the house, the meeting adjourned to meet again in regular session on Feb. 19th, 1924.

C. C. TURNER,  
Secretary.

**Bourbon**—The Bourbon County Medical Society held its annual meeting on Thursday evening, December 20th, 1923 at 8:00 P. M., with the following members present: Drs. Boxley, Daugherty, Orr, Ussery, Hart, Henry, Smith, Brown and Stern.

Case reports were presents by L. P. Henry, W. M. Brown, J. A. Orr, W. C. Ussery and C. G. Daugherty.

Sandwiches, coffee and smokes were served.

The following officers were elected for the ensuing year.

President, C. B. Smith.

First Vice-President, L. P. Henry.

Second Vice-President, W. C. Ussery.

Secretary-Treasurer, M. J. Stern.

Delegate, W. C. Ussery

Alternate, J. A. Orr.

The following resolutions were passed at the meeting of the Bourbon County Medical Society on December 20, 1923.

"Whereas; there are certain sinister influences at work to bring about changes in the present health laws whereby unqualified persons may be allowed to exploit the public health for their financial gain and also whereby others seek to put the State Board of Health and the State Board of Charities and Correction into partisan politics to the detriment of the public health and those of our unfortunates who come under the care of these boards; and

"Whereas: We believe that the present laws as now administered are for the best interest of the citizenship of our State, and

"Whereas: Leading Health authorities of other states have pointed to our State Health laws and their administration as being worthy of emulation and which other states have followed. Therefore be it

"Resolved: By the Bourbon County Medical Society; That we heartily endorse our present laws in regard to our State Board of Health and State Board of Charities and Correction and also their administration and recommend that there be no change in our present laws in regard to these Boards. That a copy of these resolutions be sent to the Governor and to our State Senator and Representative and given to the press.

WALTER J. STERN,  
Secretary.

**Pendleton**—The Pendleton County Medical Society met at Dr. Clark's office, Dec. 12, at 2:00 P. M.

Roll Call.

Minutes of last meeting read and approved.

J. E. Wilson reported a case of autointoxication with an unusual high temperature.

H. C. Clark reported a case of *Cipina bifida*, which had finally left this county and recently

been reported in the Journal as cured after an operation by Dr. Grigsby of Louisville.

Meeting adjourned to meet at the next regular time, second Wednesday in January.

B. N. CORNETT,  
Secretary.

**Russell**—The 35th annual session of the Russell County Medical Society was held December 17th, 10 A. M. at the Holt Hotel, Jamestown. The following officers were elected:

L. D. Hammond, President.

W. G. D. Flanagan, Vice-President.

J. B. Scholl, Secretary-Treasurer.

Delegate, J. S. Rowe.

Censors, J. B. Tartar, W. G. D. Flanagan and A. V. Neathey. I had the honor to be present at the organization in 1889 and the last session held in 1923. Please allow me to say that I have enjoyed the honor of being an officer of this organization in some capacity since its organization, 1889. Hoping the Journal, The K. S. M. Association and all its County Societies a prosperous year.

J. B. SCHOLL,  
Secretary.

**Johnson**—The following is a report of regular meeting and election of officers for the Johnson County Medical Society:

G. V. Daniel elected President.

E. E. Archer elected Vice-President.

D. H. Daniel elected Secretary.

P. B. Hall elected Treasurer.

D. H. Daniel elected delegate, E. E. Archer first alternate, P. B. Hall, second alternate.

Program committee appointed as follows: D. H. Swingle, Chairman, J. P. Wells, P. B. Hall.

The office of D. H. Swingle, all-time Health Officer, was selected as permanent meeting place of the society, meetings to be held the first Monday night in each month.

J. P. Wells was appointed on the Board of Censors to succeed G. V. Daniel.

At the regular meeting of the Johnson County Medical Society January 7, 1924, the following resolutions were adopted:

"Be it resolved that we approve the present State Board of Health and the present Medical Practice Act as they now stand and are administered and we are opposed to any ripper legislation changing the present method State Board of Health or amending the Medical Practice Act.

"Be it further resolved that we heartily endorse A. T. McCormack as the most efficient Medical and Health Officer in the United States and the world."

D. H. DANIEL,  
Secretary.

**Garrard**—The Garrard County Medical Society endorses the efficient services of the State Board of Health and expresses its confidence in the ability, honesty and integrity of Dr. A. T. McCormack, Secretary, who has conducted the affairs of the office in a praiseworthy and economical manner.

We congratulate the State in having so worthy a son to succeed to the high office as constituted and conducted by his distinguished father, the late Dr. J. N. McCormack, known in every community of this country as an ideal gentleman and scholar. He deservedly gained the respect of the entire profession for the work done for the profession. Not only the profession but the laity are under obligations to him for the good accomplished for the general welfare.

We are opposed to any change in the law whereby medical politics may be enabled to control the selection of members of the State Board of Health, or hamper the work so successfully and economically done up to the present time.

It is the duty of our Representatives to reflect the views of their constituency in casting their votes for any measure, therefore, we urge our Senator and Representative to stand by our profession which we are sure they will do.

We desire to express our appreciation of Senator Haselden and Representative McMurtry for their stand for the uplift of the profession.

We appreciate the public utterance of Governor Fields that there should be no politics in the appointment of members of the State Board of Health and we trust that he will uphold the present medical law.

J. A. AMON, President.

J. B. KINNAIRD, Secretary.

**Fleming**—At the first meeting of the Fleming County Medical Society for the year 1924, there were present Doctors C. R. and C. L. Garr, W. S. Reeves, J. W. Bellomy, W. W. Dye, E. T. Runyon, T. Ribelin, A. S. Robertson and C. W. Aitkin

The Society unanimously directed the Secretary to write Representative Arthur Saunders, and Senator A. W. Young of this district, that Fleming County Medical Society indorses the State Board of Health as it now exists, and desires their influence to keep it as it is.

The death of Dr. J. C. S. Brice, a retired member, was announced to the Society and suitable resolutions were adopted.

Dr. C. R. Garr, essayist for the day, read a most excellent paper on obstetrics. The paper was discussed by all members present and a motion prevailed that Doctor Garr furnish the society with a copy of his paper for our State Journal.

CHARLES W. AITKIN,  
Secretary.



**Scotts**—I have delayed reporting the results of our Scott County Medical Society of December 13, 1923, believing I would be able to collect all dues and send in with this report. However I am sending you what collections I have made with the result of the election as follows:

H. V. Johnson, President.

W. S. Alphin, Vice-President.

A. Stewart, Secretary and Treasurer.

Wm. Mason, Delegate to State Medical Society.

William Salin, Alternate.

John E. Pack, Referee.

E. C. Barlow, F. C. Collins, W. H. Coffman,  
Censors.

A. STEWART,  
Secretary.

**Carlisle**—Carlisle County Medical Society met in Bardwell at the I. O. O. F. Building, Dec. 4, 1923; President W. L. Mosby in the chair; every doctor in the county present except one. Prayer by R. T. Hocker. An interesting paper on Erysipelas was read by Dr. H. T. Couch and discussed by all present. After which visiting doctors were entertained at a sumptuous dinner at Hotel Richardson by the Bardwell doctors. At 1 P. M. President Mosby called the Society to order.

D. S. Robertson being absent his paper on "Colles Fracture" was passed until next meeting. J. F. Dunn read an interesting paper on headache due to eye strain which was discussed by all present and enjoyed very much.

Officers elected for succeeding year follows:

President, G. W. Payne, Bardwell.

Vice-President, H. A. Gilliam, Milburn.

Secretary, R. C. Burrow, Cunningham.

Treasurer, T. J. Marshall, Bardwell.

Our retiring president's address will be an inspiration to all who heard it or read it.

Society adjourned to meet in Arlington in March 4.

R. C. BURROW,  
Secretary.

**Muldraugh Hill**—The following resolutions were adopted by the Muldraugh Hill Medical Society at Elizabethtown, Kentucky on December 29, 1923:

Whereas, the attention of the Muldraugh Hill Medical Society has been called to certain attacks recently made on the State Board of Health;

Whereas, it is felt that such attacks are not only wholly malicious but entirely without foundation;

Therefore, be it resolved that it is the unanimous opinion and conviction of the members of the Muldraugh Hill Medical Society that the present State Board of Health is very efficiently and conscientiously managed.

Further, the Board as at present constituted and administered is highly satisfactory to the physicians of the district covered by the Muldraugh Hill Medical Society, namely the counties of Jefferson, Bullitt, Hardin, Hart, Larue, Nelson, Green, Warren, Taylor, Barren, Marion, Grayson.

Further resolved that a copy of these resolutions be forwarded to the Governor of Kentucky with the request that he use his far reaching influence to maintain the present system and management of the State Board of Health.

E. F. HORINE,  
Secretary.

Dr. Thos. McDavitt, St. Paul, Minnesota, trustee of the American Medical Association, was a speaker at the December meeting of the Muldraugh Hill Medical Society. He also attended the opening of the Community House, Elizabethtown.

Dr. W. A. Pusey, president of the American Medical Association, read a paper before the December meeting of the Muldraugh Hill Medical Society. After the close of the meeting Dr. Pusey formally donated the old Pusey Home, remodeled and exquisitely furnished, to Elizabethtown as a Community Center. All the old furniture used in the Pusey home for several generations, including surgical and medical equipment used by his father, are on exhibition in the old office. The grounds have been redecorated by a landscape artist which adds a quaint old fashion charm to the entire edifice.

**This is to certify**, That the following resolution was unanimously adopted by the Synod of Kentucky, U. S. A., in session at Maysville, Kentucky, Sept. 27th, 1923:

"Whereas, The State Board of Health as now organized and administered, has advanced and conserved the public health to a degree that has commended the confidence and support of the Commonwealth, and

"Whereas, Certain selfish interests within the ranks of the physicians and without are seeking to undermine and overthrow this Board and to discredit the great work of Dr. J. N. McCormack, whose services are of lasting benefit to all the people of this state and nation,

"Therefore, Be It Resolved, That it is the sense of this Synod that the State Board of Health is entitled to and should receive the active as well as the moral support of the members of this body and that our influence, individually and collectively be exerted to protect the State Board of Health against any attack made upon it at the coming Legislature."

EDWARD L. WARREN,  
Stated Clerk.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
 Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

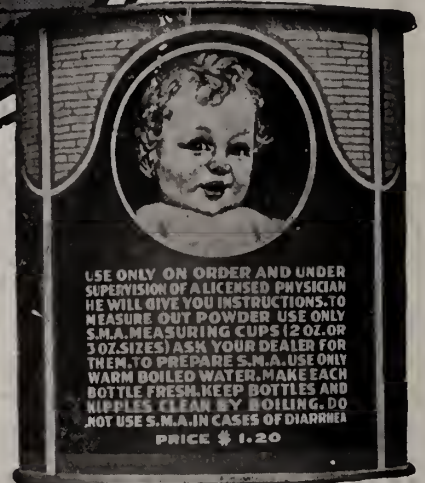
GEO. P. SPRAGUE, M.D., Lexington, Ky.





# A Food to Keep Babies and Young Children Well

**Adapted to Mother's Milk**



If you are prescribing S. M. A. we shall be glad to send you an additional supply so that you will have some on hand for any emergency. If you have never used it we should like to send you some so that you may observe results in your own practice.

Infants fed on S. M. A. look and act and grow like breast-fed infants. Their flesh is firm, they develop normally, and they are normally free from rickets and spasmophilia. In addition, S. M. A. is so simple to feed that the physician can rely on his directions being followed to the letter. To be used only on the order of a physician. For sale by druggists. Formula by permission of The Babies' Dispensary and Hospital of Cleveland.

PLEASE USE THE COUPON

The Laboratory Products Co.  
1111 Sweetland Bldg., Cleveland, Ohio

Gentlemen:— Please send me a supply of S. M. A. free of charge.

Physician's Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

I have used S. M. A. \_\_\_\_\_; I have not used S. M. A. \_\_\_\_\_

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00  
Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., MARCH, 1924

No. 3

## CONTENTS AND DIGEST

### EDITORIAL

TO THE MEDICAL PROFESSION OF KENTUCKY, L. S. McMurtry .....	53
TO THE MEDICAL PROFESSION OF KENTUCKY, Irwin Abell .....	53
PROGRAM FOR THE LOUISVILLE SESSION .....	54
L. L. ROBERTSON .....	54
WILLIAM WHITFORD .....	54

### SPECIAL ANNOUNCEMENT

REPORT OF HENRY E. JAMES .....	55
REPORT OF THE EFFICIENCY COMMISSION OF THE STATE BOARD OF HEALTH .....	70

### LETTERS

LETTERS FROM SANITARIAN TO DR. IRWIN ABELL, CHAIRMAN OF THE COMMITTEE ON LEGISLATION OF THE JEFFERSON COUNTY MEDICAL SOCIETY, IN REPLY TO A LETTER FROM DR. L. S. MCMURTRY, PRESIDENT OF THE STATE BOARD OF HEALTH	83-97
--	-------

### RESOLUTIONS

RESOLUTIONS REGARDING STATE BOARD OF HEALTH OF KENTUCKY .....	98
ROTARY CLUB, COVINGTON .....	98

(Continued on Page V)

## JUST OUT—NEW (3rd) EDITION

# Kolmer's Infection, Immunity and Biologic Therapy

This *new (3rd) edition* of Dr. Kolmer's work on Infection, Immunity and Biologic Therapy is, in fact, a *new work*, so thoroughly has it been revised, so extensive is the new matter added, totalling over 200 pages. The chapters on precipitins, agglutinins, and complement-fixation have undergone heavy revision, including the recent investigations by Dr. Kolmer and his colleagues on complement-fixation in syphilis and a new method based upon these studies. New chapters have been added on hemagglutinins, bearing especially on their relation to blood transfusion; upon serum reactions in syphilis other than complement-fixation reactions; upon allergy in relation to infection and immunity, clinical allergy, allergic skin reactions, treatment of human allergies and the Schick test. The chapters on vaccine and serum therapy have been largely rewritten and non-specific protein therapy included. An important new chapter is that on biologic therapy of tuberculosis as well as that on blood transfusion, giving considerable attention to methods of transfusion.

Octavo of 1210 pages, with 202 original illustrations, 51 in colors. By JOHN A. KOLMER, M.D., Dr.P.H., Sc.D. (Hon.), Professor of Pathology and Bacteriology in the Graduate School of Medicine, University of Pennsylvania. Cloth, \$12.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



MEAD'S

# BETTER BABIES

There is a difference between *PROPER NO.* *MENT* for the baby  
and—just some *kind of* food.  
*SUCCESS*—Physicians agree that successful infant feeding begins with

## Breast Milk

Pediatricists are constantly furnishing newer knowledge on

*Prolonged Lactation.*

*Reestablishment of Breast Milk after the Breast is Dry.*

*Overfeeding*

*Underfeeding.*

*Colic of Breast Nursed Infants.*

*Instructions to Mothers at time of Baby's birth.*

*Retracted and Spastic Nipples.*

*Premature Infants.*

*Lack of Education of Mothers.*

These data will be found in our pamphlet entitled:

**"BREAST FEEDING AND THE RE-ESTABLISHMENT  
OF BREAST MILK"**

**EQUIPMENT**—When breast milk is not obtainable, the following equipment furnished by *MEAD* will aid the physician to obtain gratifying results in artificial infant feeding:

### *MEAD'S PEDIATRIC TOOL KIT*

contains File index of Corrective Diets, Weight Charts, Prescription Blanks, History Charts, Diets for Older Children, Instructions for Expectant Mothers, Pedigree and Certified Cod Liver Oil, Dextri-Maltose, Florena, Arrowroot Flour, Oat Flour, Barley Flour, Casein, other helps. This equipment is an aid to the management of the diet of well babies and sick babies and is of great assistance to obtain co-operation from mothers. **IT IS FREE.**

*Mead's Infant Diet Materials assist the physician to obtain CONTROL and eliminate CONFUSION*

### *The Mead Johnson Policy*

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant.

**Mead-Johnson  
& Company**



**Evansville,  
Indiana**

*An Institution Devoted to the Study of Infant Nutrition*

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., MARCH, 1924

No. 3

## EDITORIAL

### TO THE MEDICAL PROFESSION OF KENTUCKY.\*

Speaking of the State Board of Health of Kentucky, which had been inspired, created and made a living force largely by his leadership, the late Dr. J. N. McCormack said in an editorial in *THE JOURNAL* that "it has always been considered and has always considered itself as being little more than an executive committee of the several State associations officially represented in its membership." The people of Kentucky have given to the medical profession responsibility for its public health. The organized profession has accepted this responsibility. The progress that has been made in public health has secured for the profession and for the State Board of Health a large degree of public confidence. This has been strengthened recently by the report of the State Inspector and Examiner, Honorable Henry E. James.

In this session of the General Assembly a bill has been introduced, fostered by one physician and opposed by practically every member of the profession of the State. This bill, if enacted into law, would destroy the carefully constructed non-political health machinery of the State and substitute for it a political Board which would endanger the relationship between those of our profession who limit their practice to public health and those who do general practice or who limit their practice to the other specialties in medicine. This has occurred, unfortunately in many other states. To any right-minded man, the idea of selecting one's physician or one's health officer or member of one's board of health because he is either a Democrat or a Republican is absurd. He should be selected because he is competent, because he understands the situation, and because he knows

what to do. To the medical profession, therefore, this proposed legislation, which would introduce party politics into our health department, is very repugnant. In order that the profession may be armed with the facts, I have requested *THE JOURNAL* to publish in full the report of the State Inspector and Examiner and the report of the Efficiency Commission, composed of experts employed by the last General Assembly for the purpose of making a careful investigation of the different departments for the State government, and which I have not had the privilege of reading in full but from which I have seen extracts in the newspapers, and extracts from letters which have been written to Dr. Irvin Abell, chairman of the Committee on Legislation, of the Jefferson County Medical Society, in reply to a letter which I sent to many of the prominent sanitariums of the country. These reports and letters will arm the profession with the facts and will enable it to continue to merit and receive the remarkable support that has so animated us from practically every powerful state-wide organization in Kentucky.

It is to the utmost importance for the profession and people to realize that this is not a personal fight between individuals and that it must not be permitted to degenerate into such a fight. The question at issue is: "*Shall we have an effective State Board of Health, or shall we have a political State Board of Health?*"

L. S. McMurtry, President,  
State Board of Health.

### TO THE MEDICAL PROFESSION OF KENTUCKY

The splendid work done by the Kentucky State Board of Health in the conservation of the health of the people of our State has been and is a source of pride to the members of the profession in a position to know of its extent and character. Covering a wide field embracing a multitude of activities its service has been of such preeminent ex-

This editorial was dictated by Dr. McMurtry on January twenty-fourth, the day before the beginning of the attack of pneumonia, which proved fatal on February first. It is the last message of this great man to the profession which he honored and which had so honored him.



cellence that its methods have been copied and adopted by many health bodies throughout the union. Since imitation is the sincerest form of flattery it may be justly assumed that the adoption of its methods is a tacit admission of its leadership by men devoting their entire activities to the solution of the health problems confronting the body politic. The unreserved commendation of health experts throughout the country, excerpts from some of whose letters appear in this issue of the Journal, gives eloquent testimony of the high regard such men have for the Kentucky State Board of Health and of their estimate of the value of the service which it renders to the people of this Commonwealth. The sole standard upon which such service should be measured is efficiency, and efficiency in health matters depends upon professional ability and attainments rather than upon party affiliations. Since the medical profession comprises the only group of men whose education and training fit them for intelligent supervision of the community health it is earnestly desired that their responsibility in this matter be not hampered by restriction of their discretion and judgment in the selection of means, methods and personnel in fighting disease and in correcting conditions leading to or favoring the development of such.

Irwin Abell

---

#### PROGRAM FOR THE LOUISVILLE SESSION.

The Committee on Scientific Work is now considering the subject program for the meeting this Fall. Dr. Louis Frank will have charge of and be responsible for the program. This insures an interesting program, but Dr. Frank desires to make it responsive to the desires of the members of the Association, especially those of the general practitioners in Louisville and out in the State. He will appreciate letters telling him just what our readers are interested in, and these should reach him at the earliest possible moment.

The Louisville session will probably bring the largest attendance in the history of the

Association, and it is the desire of all of those who will be connected with it to make it memorable from a scientific standpoint.

---

#### DR. L. L. ROBERTSON.

Dr. Leslie L. Robertson, of Middlesboro, died suddenly at his home after a short, severe illness on January 23rd.

Dr. Robertson was born at Augusta, in Braeken County. He graduated from the Medical Department, University of Louisville, in the Class of 1888. He has been Medical Referee of Bell County since 1888. He was a member of the State Board of Health for several years. He has missed but two meetings of the State Medical Association in the past thirty years.

Dr. Robertson was an unusual man, affable, thoughtful, diplomatic, forceful and resourceful. He was one of the outstanding medical men of Kentucky. His loss to his conferees and people in South-western Kentucky will be irreparable. To his devoted wife, who survives him, the love and sympathy of every member of the medical profession of Kentucky is extended.

---

#### WILLIAM WHITFORD.

In the death of William Whitford, in Chicago recently, the medical profession of America loses one of its most faithful servants.

"Whitford," as everybody knew him, was the original medical reporter of America. He was one of that type of educated Englishmen that knew practically everything that was worth while. He knew the names and voices of practically every medical man in America who takes part in discussions in medical societies or before the public. He not only transcribed our discussions, but improved and corrected our mistakes in "transcribing them." He was prompt, zealous, industrious, honest.

He will have successors who will do his work, not no one will ever replace, in the hearts of those who have known him and loved him, this faithful friend.

REPORT OF HENRY E. JAMES,  
STATE INSPECTOR AND EXAMINER,  
ON ACCOUNTS, AFFAIRS AND  
CONDITIONS OF THE STATE BOARD  
OF HEALTH  
LOCATED AT LOUISVILLE,  
KENTUCKY  
DECEMBER 28, 1923

Frankfort, Kentucky,  
December 28, 1923

Hon. William J. Fields,  
Governor of Kentucky,  
Frankfort, Kentucky.

Dear Sir:—

I beg to submit the following report upon an investigation of the accounts, affairs, conditions and management and conduct of the State Board of Health, located at Sixth and Main streets, in City of Louisville, Kentucky. The checking of the accounts and the entire investigation was made by me in person and covers the period from July 1, 1921, to June 30, 1923.

H. E. James,  
State Inspector and Examiner.

TRACHOMA FUND  
RECEIPTS

1921		
July	From State Treasury.....	\$ 1,401.64
Aug.	From State Treasury.....	1,299.97
Sept.	From State Treasury.....	1,040.66
Oct.	From State Treasury.....	1,241.47
Nov.	From State Treasury.....	1,303.31
Dec.	From State Treasury.....	902.82
1922		
Jan.	From State Treasury.....	\$ 1,308.64
Feb.	From State Treasury.....	1,343.13
Mar.	From State Treasury.....	627.85
Apr.	From State Treasury.....	1,234.38
May	From State Treasury.....	645.55
June	From State Treasury.....	1,350.58

\$13,700.00

Annual appropriation from July 1, 1921,  
to June 30, 1922.

EXPENDITURES

1921		
July	Pay roll, etc.....	\$ 1,360.19
Aug.	Pay roll, etc.....	799.97
Sept.	Pay roll, etc.....	790.66
Oct.	Pay roll, etc.....	1,442.81
Nov.	Pay roll, etc.....	1,387.92
Dec.	Pay roll, etc.....	1,103.46
1922		
Jan.	Pay roll, etc.....	\$ 1,094.78
Feb.	Pay roll, etc.....	843.13
Mar.	Pay roll, etc.....	1,063.82
Apr.	Pay roll, etc.....	734.38
May	Pay roll, etc.....	1,728.30
June	Pay roll, etc.....	1,350.58

\$13,700.00

Balance June 30, 1922, unexpended.....\$ 00.00

TRACHOMA FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1921 TO  
JUNE 30, 1922

	Salaries and wages	Station- ery and printing	Postage, freight and express	Traveling
1921				
July	\$ 727.00	\$22.15	....	\$ 452.33
Aug.	680.00	....	....	....
Sept.	605.00	16.60	....	....
Oct.	572.50	....	....	870.31
Nov.	500.00	....	\$35.00	445.50
Dec.	500.00	....	2.50	533.73
1922				
Jan.	\$ 500.00	....	....	\$ 463.96
Feb.	500.00	....	....	216.86
Mar.	500.00	....	....	521.64
Apr.	500.00	....	....	189.87
May	566.67	....	35.44	784.34
June	549.50	....	....	145.47
Total	\$6,700.67	\$38.75	\$72.94	\$4,624.01

TRACHOMA FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1921 TO  
JUNE 30, 1922

	Expenditures and pro- visions	Furni- ture and equipment	Laun- dry	Renewals and repairs	Miscel- laneous
1921					
July	\$ 147.23	....	....	\$11.48	....
Aug.	119.97	....	....	....	....
Sept.	169.06	....	....	....	....
Oct.	....	....	....	....	....
Nov.	407.42	....	....	....	....
Dec.	67.23	....	....	....	....
1922					
Jan.	\$ 130.82	....	....	....	....
Feb.	112.65	....	\$10.12	\$ 3.50	....
Mar.	42.18	....	....	....	....
Apr.	44.51	....	....	....	....
May	333.10	\$6.75	....	....	\$2.00
June	655.61	....	....	....	....
Total	\$2,229.78	\$6.75	\$10.12	\$14.98	\$2.00

TRACHOMA FUND

RECEIPTS

1922		
July	From State Treasury.....	\$ 2,003.81
Aug.	From State Treasury.....	1,070.91
Sept.	From State Treasury.....	1,070.14
Oct.	From State Treasury.....	1,017.96
Nov.	From State Treasury.....	316.58
Dec.	From State Treasury.....	731.20
1923		
Jan.	From State Treasury.....	\$ 788.11
Feb.	From State Treasury.....	728.50
Mar.	From State Treasury.....	645.86
Apr.	From State Treasury.....	535.48
May	From State Treasury.....	803.62
June	From State Treasury.....	787.83

\$11,000.00

Annual appropriation from July 1, 1922 to  
June 30, 1923.

EXPENDITURES

1922		
July	Pay roll, etc.....	\$ 1,374.01
Aug.	Pay roll, etc.....	670.91
Sept.	Pay roll, etc.....	1,486.00
Oct.	Pay roll, etc.....	1,147.85
Nov.	Pay roll, etc.....	719.87
Dec.	Pay roll, etc.....	959.26
1923		
Jan.	Pay roll, etc.....	\$ 788.11
Feb.	Pay roll, etc.....	705.14
Mar.	Pay roll, etc.....	667.34
Apr.	Pay roll, etc.....	508.75
May	Pay roll, etc.....	503.62
June	Pay roll, etc.....	1,469.14

\$11,000.00

Balance June 30, 1923, unexpended.....\$ 00.00



## TRACHOMA FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1922 TO  
JUNE 30, 1923

	Salaries and wages	Post- age and exp.	Trav- eling	Expend- ables and pro- visions	Furni- ture and equip.	Re- newals and repairs
1922						
July	\$ 600.00	\$ 1.50	\$ 358.20	\$ 294.15	....	\$120.16
Aug.	598.00	....	....	72.91	....	....
Sept.	655.00	25.00	690.36	115.14	....	....
Oct.	614.50	....	445.09	88.26	....	....
Nov.	425.00	....	203.29	91.58	....	....
Dec.	425.00	25.00	503.06	2.70	....	3.50
1923						
Jan.	425.00	....	48.48	314.63	....	....
Feb.	425.00	....	276.64	3.50	....	....
Mar.	348.00	....	273.48	45.86	....	....
Apr.	307.50	....	165.77	10.48	\$ 25.00	....
May	395.00	....	....	63.62	45.00	....
June	475.00	37.74	159.24	243.90	553.26	....

Total \$5,693.00 \$89.24 \$3,124.11 \$1,346.73 \$623.26 \$123.66

Oct.	475.50	1,568.56	50.00	1.25	2,095.31
Nov.	407.88	1,587.43	100.00	....	2,095.31
Dec.	460.56	1,534.75	100.00	....	2,095.31
1923					
Jan.	590.24	1,405.07	100.00	....	2,095.31
Feb.	424.61	1,570.70	100.00	....	2,095.31
Mar.	537.40	1,347.33	261.90	....	2,147.13
Apr.	447.72	1,243.20	346.43	\$ 9.24	2,046.59
May	412.80	1,198.33	445.04	52.75	2,108.92
June	480.99	1,299.19	307.94	20.80	2,108.92
Total	\$5,660.58	\$17,240.96	\$2,111.31	\$130.83	\$25,143.68
Balance June 30, 1923 unexpended	....	....	....	....	\$ 00.00

## SPECIAL FUND

## EXPERIMENT STATION

RECEIPTS AND EXPENDITURES FROM JULY 1, 1921, TO  
JUNE 30, 1922

	RECEIPTS	
1921	Appropriation	\$18,000.00
	EXPENDITURES	
1922	June	\$18,000.00
Unexpended balance	....	\$ 00.00

## HYGIENE FUND

## (Bureau of Venereal Diseases)

## RECEIPTS

1921		
Appropriation from July 1, 1921, to June 30, 1922	....	\$27,000.00
Federal Government appropriation from July 1, 1921, to June 30, 1922	....	13,602.78
Federal unexpended balance	....	3,770.37
		\$44,373.15

## EXPENDITURES

	Adminis- trative	Treatment local cop. clinics	Repressive measures	Educational publicity	Miscellaneous	Total
1921						
July	\$ 498.85	\$1,524.81	\$ 150.00	\$ 297.66	....	\$ 2,471.32
Aug.	448.77	2,163.19	150.00	291.66	....	3,053.62
Sept.	493.57	2,216.32	150.00	332.87	....	3,192.76
Oct.	490.52	2,868.74	150.00	381.66	....	3,890.92
Nov.	460.05	2,754.67	150.00	314.66	....	3,679.38
Dec.	472.91	1,858.04	150.00	308.41	....	2,739.36
1922						
Jan.	461.24	2,752.66	150.00	538.66	....	3,902.56
Feb.	421.90	2,180.35	150.00	378.41	....	3,130.66
Mar.	403.78	3,019.18	150.00	315.69	....	3,888.65
Mar.	464.34	252.18	....	416.10	\$367.38	1,500.00
Apr.	519.50	2,490.51	150.00	....	....	3,160.01
Apr.	446.55	466.68	....	48.00	238.77	1,200.00
May	909.70	2,543.10	150.00	240.95	186.26	4,030.01
June	815.23	3,438.04	164.63	66.00	....	4,483.90
Total	\$7,306.91	\$30,528.47	\$1,814.63	\$3,930.73	\$792.41	\$44,373.15
Balance June 30, 1922 unexpended	....	....	....	....	....	\$ 00.00

## HYGIENE FUND

## RECEIPTS

1922		
Appropriation from July 1, 1922, to June 30, 1923	....	\$20,000.00
Federal Government appropriation from July 1, 1922, to June 30, 1923	5,143.68	
		\$25,143.68

## EXPENDITURES

	Adminis- tration	Treatment local cop. clinics	Repressive measures	Edu- cation and pub- licity	Total
1922					
July	\$ 522.70	\$ 1,411.92	\$ 100.00	\$ 30.33	\$ 2,064.95
Aug.	448.62	1,546.69	100.00	....	2,095.31
Sept.	451.56	1,527.29	100.00	16.46	2,095.31

## PRACTICE ACT FUND

RECEIPTS AND EXPENDITURES FROM JULY 1, 1921, TO  
JUNE 30, 1922

## RECEIPTS

1921		
July	Fees	\$ 509.50
Oct.	Fees	451.90
Nov.	Fees	229.00
Nov.	Fees	175.00
Dec.	Fees	464.50
1922		
Jan.	Fees	230.50
Mar.	Fees	156.00
Apr.	Fees	196.00
May	Fees	326.50
June	Fees	930.86
Total fees collected	....	\$3,669.76

## EXPENDITURES

	Salaries and wages	Printing	Traveling expense	Property	Fees and services	Total
1921						
July	\$ 125.00	\$ 10.67	\$ 29.04	....	\$ 75.00	\$ 239.71
Aug.	155.00	....	20.57	....	60.00	235.57
Sept.	125.00	....	14.10	....	....	139.10
Oct.	125.00	5.63	18.60	\$ 65.00	250.00	464.23
Nov.	125.00	....	....	....	....	125.00
Dec.	125.00	....	....	....	55.00	180.00
1922						
Jan.	125.00	....	11.15	....	....	136.15
Feb.	125.00	....	....	....	75.00	200.00
Mar.	125.00	161.44	4.26	....	....	290.70
Apr.	125.00	....	....	....	....	125.00
May	125.00	....	8.20	....	367.50	500.70
June	125.00	....	17.51	681.09	210.00	1,033.60
Total	\$1,530.00	\$177.74	\$123.43	\$746.09	\$1,092.50	\$3,669.76
Balance June 30, 1922 unexpended	....	....	....	....	....	\$ 00.00

## PRACTICE ACT FUND

RECEIPTS AND EXPENDITURES FROM JULY 1, 1922, TO  
JUNE 30, 1923

## RECEIPTS

1922		
July	Fees.....	\$ 314.00
Aug.	Fees.....	152.00
Sept.	Fees.....	259.00
Oct.	Fees.....	352.00
Nov.	Fees.....	160.00
Dec.	Fees.....	773.00
1923		
Jan.	Fees.....	319.00
Feb.	Fees.....	104.00
Mar.	Fees.....	58.00
Apr.	Fees.....	75.00
May	Fees.....	208.00
June	Fees.....	484.00

Total fees collected.....\$3,258.00

## EXPENDITURES

	Stationery and Salaries and wages	Print- ing	Travel- ing	Fees and services	Total
1922					
Aug.	\$ 125.00	\$ 3.50	\$ 9.56	\$ 50.00	\$ 188.06
Sept.	125.00	....	33.32	50.00	175.00
Oct.	125.00	....	....	50.00	208.32
Nov.	125.00	....	....	50.00	175.00
Dec.	125.00	....	16.96	612.50	754.46
1923					
Jan.	125.00	....	....	125.00	250.00
Feb.	125.00	....	16.20	83.20	224.40
Mar.	125.00	....	38.34	56.00	219.34
Apr.	125.00	....	....	25.00	150.00
May	125.00	....	30.63	75.00	230.63
June	125.00	....	2.79	380.00	507.79

Total \$1,500.00 \$3.50 \$147.80 \$1,606.70 \$3,258.00  
Balance June 30, 1923 unexpended.....\$ 00.00

## CHILD HYGIENE FUND

RECEIPTS AND EXPENDITURES TO JUNE 30, 1922

## RECEIPTS

1922  
Federal Government to June 30, 1922.....\$10,452.00

## EXPENDITURES

1922		
June	Pay roll, etc.....	\$ 787.32
June	Pay roll, etc.....	1,648.31
June	Pay roll, etc.....	312.50

Balance June 30, 1922 unexpended.....\$2,748.63  
DISTRIBUTION OF EXPENDITURES TO JUNE 30, 1922

	Salaries and wages	Travel- ing	Sup- plies	Fur- niture and equip.	Infant and hygiene clinics	Total
1922						
Apr.	\$ 300.00	\$ 19.98	....	....	....	\$ 319.98
May	416.67	50.67	....	....	....	467.34
June	1,400.00	147.91	\$27.85	\$73.05	....	1,648.81
June	....	....	....	....	\$312.50	312.50

Total \$2,116.67 \$218.56 \$27.85 \$73.05 \$312.50 \$2,748.63

## CHILD HYGIENE FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1922 TO  
JUNE 30, 1923.

	Stationery and Salaries and Wages	Print- ing	Postage and Freight and Express	Travel- ing	Supplies	Tele- phone and Tele- graph	Furni- ture and Equip- ment	Repairs	Infant Hygiene Clinics	Miscel- laneous
1922										
July	\$1,853.33	\$102.33	\$ ....	\$ 343.32	\$ 78.00	....	....	....	\$ 1,944.17	....
Aug.	1,628.33	....	12.68	371.62	15.49	....	\$ 131.89	....	549.99	\$ 10.00
Sept.	1,688.34	65.24	28.81	675.83	462.63	\$ 48.00	....	....	672.50	10.00
Oct.	1,688.33	94.03	46.79	533.90	66.65	1.15	....	....	2,604.67	....
Nov.	1,538.33	....	7.87	268.07	26.20	....	....	....	1,383.34	5.00
Dec.	1,688.34	98.28	2.25	517.78	19.60	....	....	....	900.00	5.00
1923										
Jan.	1,463.33	279.27	5.97	330.74	96.98	....	....	....	1,441.67	5.00
Feb.	1,775.94	96.54	14.77	543.19	103.37	....	....	....	1,571.65	....
Mar.	2,698.32	....	172.13	514.54	71.28	....	18.25	....	....	....
Apr.	4,289.17	1,255.68	43.62	409.92	105.53	20.84	159.15	\$ 2.14	....	....
May	4,476.58	12.05	136.15	2,375.14	1,656.42	21.50	....	....	1,245.84	5.40
June	4,306.68	817.93	....	29.52	61.30	....	77.28	....	399.99	2.00
	\$29,095.02	\$2,821.35	\$471.04	\$6,913.57	\$2,763.45	\$91.49	\$386.57	\$2.14	\$12,713.82	\$42.40

## CHILD HYGIENE FUND

## RECEIPTS

1922

Federal Government unexpended balance....\$ 7,703.37  
Annual State appropriation..... 21,298.84  
Federal Government appropriation..... 26,298.64  
\$55,300.85

1922

July From State Treasury.....\$4,321.15  
Aug. From State Treasury..... 2,720.00  
Sept. From State Treasury..... 3,800.00  
Oct. From State Treasury..... 5,050.00  
Nov. From State Treasury..... 3,350.00  
Dec. From State Treasury..... 3,160.00

1923

Jan. From State Treasury..... 3,685.00  
Feb. From State Treasury..... 3,925.00  
Mar. From State Treasury..... 3,425.00  
Apr. From State Treasury..... 6,700.00  
May From State Treasury..... 9,470.00  
June From State Treasury..... 5,694.70—\$55,300.85

## EXPENDITURES

1922

July Pay roll, etc.....\$4,321.15  
Aug. Pay roll, etc..... 2,720.00  
Sept. Pay roll, etc..... 3,651.35  
Oct. Pay roll, etc..... 5,035.52  
Nov. Pay roll, etc..... 3,228.31  
Dec. Pay roll, etc..... 3,231.25

1923

Jan. Pay roll, etc..... 3,622.96  
Feb. Pay roll, etc..... 4,105.46  
Mar. Pay roll, etc..... 3,474.52  
Apr. Pay roll, etc..... 6,286.05  
May Pay roll, etc..... 9,929.08  
June Pay roll, etc..... 5,694.70—\$55,300.85

Balance June 30, 1923 unexpended...\$ 00.00

## HOTEL AND RESTAURANT FUND

RECEIPTS & EXPENDITURES FROM JULY 1, 1921 TO JUNE  
30, 1922.

## RECEIPTS

1921		
Dec.	Fees.....	\$ 866.65
1922		
Jan.	Fees.....	270.10
Feb.	Fees.....	4,311.70
Mar.	Fees.....	1,216.56
Apr.	Fees.....	250.55
May	Fees.....	194.80
June	Fees.....	142.95

Total fees collected ..... \$7,253.31



EXPENDITURES

	Salaries Wages	Postage Freight and Express	Travel- ing	Fees and Services	Equip- ment	Total
1922						
March	\$ 918.75	\$ 16.15	\$ 132.02	\$1,433.08	....	\$2,500.00
April	845.00	272.27	120.23	312.50	....	1,550.00
May	675.00	52.70	287.30	....	....	1,015.00
June	1,075.00	....	609.00	....	....	1,684.00
July	245.00	158.59	54.97	....	\$ 45.75	504.31
	\$3,758.75	\$499.71	\$1,203.52	\$1,745.58	\$45.75	\$7,253.31
Balance June 30, 1922 unexpended .....						\$ 00.00

HOTEL AND RESTAURANT FUND

GENERAL FUND

RECEIPTS AND EXPENDITURES FROM JULY 1, 1922 TO JUNE 30, 1923.

RECEIPTS			RECEIPTS		
1922.			1922—		
Oct. Fees.....	\$ 1,428.00		Annual appropriation .....	\$70,000.00	
Dec. Fees.....	852.50		Reimbursement from Hotels and Restaurants for salary and expense paid by General Fund to Food and Drug department ....	2,421.46	
1923					\$72,421.46
Feb. Fees.....	4,101.95				
Mar. Fees.....	1,432.40				
Apr. Fees.....	867.05				
June Fees.....	1,490.70				
Total fees collected ....		\$10,172.60			
EXPENDITURES			EXPENDITURES		
1923			1922—		
Jan. Pay roll, etc.....	\$ 1,225.00		July pay roll, etc .....	\$ 5,800.00	
Feb. Pay roll, etc.....	1,300.00		August pay roll, etc. ....	5,000.00	
Mar. Pay roll, etc.....	1,300.00		September pay roll, etc. ....	5,500.00	
Apr. Pay roll, etc.....	1,300.00		October pay roll, etc. ....	12,576.49	
May Pay roll, etc.....	1,300.00		November pay roll, etc. ....	5,200.00	
June Pay roll, etc.....	2,421.46		December pay roll, etc. ....	5,380.00	
June Pay roll, etc.....	1,296.14	\$10,172.60	1923—		
Balance June 30, 1923 unexpended ..\$		00.00	January pay roll, etc. ....	4,550.00	
			February pay roll, etc. ....	4,349.05	
			March pay roll, etc. ....	3,900.00	
			April pay roll, etc. ....	4,900.00	
			May pay roll, etc. ....	4,100.00	
			June pay roll, etc. ....	11,165.92—	\$72,421.46

HOTEL AND RESTAURANT FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1922 TO JUNE 30, 1923.

	Salaries Wages	Postage Freight & Exp.	Traveling	Rent	Tel. & Teleg.	Furniture & Equip.	Fees and Services	Supplies	Mls.
1923									
January	\$ 785.00	\$ 100.30	\$ 347.30	\$ 5.00	....	....	\$ 14.40	\$ 3.00	
February	785.00	92.46	371.09	5.00	\$ 38.05	....	....	8.40	....
March	785.00	55.89	390.90	....	....	\$ 5.00	\$ 63.21	....	....
April	785.00	16.52	368.56	....	....	95.00	18.80	16.12	....
May	851.66	106.25	287.65	....	43.34	....	11.10	....	....
June	1,750.00	....	671.46	....	....	....	....	....	....
June	858.33	3.75	345.46	....	....	40.00	....	33.60	15.00
Total .....	\$6,599.99	\$375.17	\$2,782.42	\$ 10.00	\$ 81.39	\$ 140.00	\$ 93.11	\$ 72.52	\$ 18.00

GENERAL FUND

EXPENDITURES

RECEIPTS AND EXPENDITURES FROM JULY 1, 1921 TO JUNE 30, 1922			EXPENDITURES		
RECEIPTS			1921		
1921			July pay roll, etc. ....	\$11,400.00	
Annual appropriation .....	\$76,300.00		August pay roll, etc. ....	6,200.00	
Reimbursement from Hotels and Restaurants for salary and expense paid by General Fund to Food and Drug inspector .....	1,684.00		September pay roll, etc. ....	9,260.00	
		\$77,984.00	October pay roll, etc. ....	9,360.00	
			November pay roll, etc. ....	7,500.00	
			December pay roll, etc. ....	5,490.00	
			1922		
			January pay roll, etc. ....	7,550.00	
			February pay roll, etc. ....	7,335.32	
			March pay roll, etc. ....	1,800.00	
			April pay roll, etc. ....	1,800.00	
			May pay roll, etc. ....	2,903.61	
			June pay roll, etc. ....	7,385.07—	\$77,984.00

GENERAL FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1921 TO JUNE 30, 1922

	Salaries and Wages	Station- ery and Binding	Postage, Freight and Express	Travel- ing	Rent	Tele- phone and Teleg.	Furni- ture and Equip.	Fees- and ser- vices
1921								
July	\$ 4,561.84	....	\$ 136.23	\$1,373.87	\$ 77.40	\$ 216.75	\$ 240.44	\$ 510.94
August	4,222.33	....	112.41	882.13	55.00	114.49	178.10	102.00
September	4,310.76	\$ 200.53	90.97	682.79	55.00	138.29	3,176.87	69.77
October	4,790.77	34.83	148.22	1,291.12	99.80	145.46	119.67	76.00
November	4,319.79	....	310.54	1,137.95	55.00	167.73	894.97	35.00
December	3,931.67	149.38	217.67	422.78	55.00	173.77	....	80.00
1922—								
January	3,925.67	506.09	365.35	676.90	12.00	121.54	39.16	12.25
February	4,272.73	417.00	438.44	541.33	72.50	141.19	....	60.00
March	1,245.83	5.75	58.17	112.86	....	120.60	....	12.00
April	1,210.67	3.75	62.43	247.89	55.00	5.34	....	10.00
May	1,510.00	24.69	37.94	56.81	55.00	36.87	....	32.00
June	2,819.67	45.41	1.00	206.13	55.00	73.96	1,566.09	116.20
Total .....	\$41,121.73	\$1,387.43	\$1,979.37	\$7,632.56	\$ 646.70	\$1,455.99	\$6,215.30	\$1,116.16

	Renew- als and Repairs	Expenda- bles and Lab. Sup.	Laundry	Building	Fuel, Light and water	Library	County Health Work	Miscel- laneous
1921—								
July	\$1,237.49	\$ 625.85	\$ 36.66	.....	\$ 840.35	\$ 117.00	\$1,425.18	.....
August	232.03	162.36	5.00	.....	111.15	23.00	.....	.....
September	89.78	287.70	31.03	.....	62.71	23.80	.....	\$ 40.00
October	200.06	209.69	5.00	.....	187.55	121.62	1,724.91	205.30
November	93.18	100.99	5.45	.....	114.88	75.08	.....	189.44
December	112.87	169.55	7.54	.....	114.75	51.64	3.38	.....
1922—								
January	52.18	322.30	19.29	.....	117.87	45.01	830.26	504.13
February	187.24	1,013.67	30.19	.....	118.13	42.90	.....	.....
March	39.75	152.91	29.63	.....	15.00	1.50	.....	6.00
April	41.86	128.11	10.45	.....	16.50	5.00	.....	3.00
May	304.85	88.71	.....	.....	733.19	23.55	.....	.....
June	326.30	254.57	51.79	\$1,757.58	34.38	11.53	65.46	.....
Total	\$2,917.59	\$3,516.41	\$ 232.03	\$1,757.58	\$2,466.46	\$ 541.63	\$4,049.19	\$ 947.87

GENERAL FUND

DISTRIBUTION OF EXPENDITURES FROM JULY 1, 1922 TO JUNE 30, 1923

1923—	Salaries and Wages	Station- ery and Printing	Postage, Fr'ght and Express	Travel- ing	Rent	Tele- phone and Telegr.	Furni- ture and Equip.	Fees- and ser- vices
1922								
July	\$ 3,788.83	.....	\$ 172.76	\$ 462.72	\$ 55.00	\$ 237.40	\$ 74.71	\$ 47.00
August	3,381.16	\$ 11.49	138.74	630.25	55.00	124.07	22.40	10.00
September	3,389.51	632.74	71.23	611.20	55.00	103.73	.....	47.78
October	3,451.17	7,386.47	61.64	707.78	59.04	137.11	8.80	28.04
November	3,479.83	.....	104.34	736.48	60.00	113.47	.....	50.00
December	3,376.17	197.99	446.08	414.95	55.00	108.07	7.50	25.85
January	2,654.16	6.08	299.22	353.66	55.00	115.89	37.50	.....
February	2,654.17	712.85	197.27	171.65	55.00	101.91	.....	24.20
March	2,512.16	70.06	135.35	249.56	55.00	95.41	.....	.....
April	3,041.17	672.37	91.96	330.03	55.00	34.49	.....	50.00
May	2,984.82	133.06	83.12	249.26	55.00	147.13	.....	.....
June	2,444.16	1,367.24	173.18	466.70	55.00	23.29	278.18	289.79
Total	\$37,157.31	\$11,190.35	\$1,974.89	\$5,384.24	\$669.04	\$1,341.97	\$429.09	\$572.66

1922	Renew- als and Repairs	Expenda- bles and Lab. Sup.	Laundry	Fuel Light and water	Library	County Health Work	Miscel- laneous
July	\$ 89.50	\$ 607.11	\$ 28.62	\$ 201.25	\$ 35.10	.....	.....
August	165.69	324.68	24.83	111.69	.....	.....	.....
September	140.00	267.54	5.00	122.27	54.00	.....	.....
October	110.54	415.04	19.35	132.51	15.75	.....	\$ 43.25
November	34.20	421.47	25.41	126.80	23.00	.....	25.00
December	38.85	391.14	15.93	133.97	10.00	.....	159.20
1923—							
January	108.75	411.75	23.59	135.40	19.00	.....	330.00
February	32.85	199.47	5.00	127.04	27.64	.....	40.00
March	298.04	305.69	19.83	124.05	29.85	.....	5.00
April	18.47	188.86	14.95	123.90	30.00	.....	248.80
May	23.15	235.94	16.09	133.52	26.40	.....	32.51
June	45.57	547.34	48.72	36.00	24.64	\$4,250.00	1,116.11
Total	\$1,105.61	\$4,316.03	\$247.39	\$1,487.70	\$295.38	\$4,250.00	\$1,999.87

PAY ROLL JUNE 1922

GENERAL FUND

Dr. L. S. McMurry, President	\$100.00
Dr. A. T. McCormack, Secretary	250.00
Elva Grant, Bookkeeper	50.00
Dr. L. H. South, Bacteriologist	200.00
Ella M. Bennett, Stenographer	100.00
Ruth Callen, Technician	25.00
Elsie Callen, Technician	25.00
J. F. Blackerby, State Registrar	200.00
Rebecca Runner, Statistician	100.00
Nettie Ferguson, Stenographer	110.00
Louise Spurrier, Bookkeeper	65.00
Louise Sewell, Card Clerk	40.00
Katherine Gambert, Card Clerk	40.00
Gertrude Hiner, Card Clerk	65.00
Louise Potter, Card Clerk	14.67
Mattie Taylor, Janitress	24.00
Viola Starks, Janitress	40.00
F. C. Dugan, State Sanitary Engineer	200.00
Helen Donaldson, Acting Director, Public Health Education	150.00
Henrietta Guyn, Stenographer	35.00

PAY ROLL JUNE 1923

HOTELS AND RESTAURANTS

Sarah H. Vance Director	\$200.00
Catherine L. Furey, Stenographer	45.00
Otho Haskins, Janitor	80.00
Edna Burge, Telephone Operator	40.00

PAY ROLL JUNE 1922

CHILD HYGIENE

Dr. A. T. McCormack, State Health Officer	\$ 88.33
Dr. Annie S. Veech, Director	300.00
Florence Hauswald, Nurse	150.00

Margaret Thomas, Nurse	150.00
Mrs. Mattie Snedaker, Birth Registrar	75.00
Mrs. Inez Roche, Nurse	25.00
Mary Atkins, Stenographer	125.00
Inez Gleeson, Stenographer	125.00
Ellse Luten, Cashier	75.00
A. J. Brewer, Publicity Educational Instructor	75.00
Marlan Williamson, Director, Public Health Nursing (one-fourth salary)	50.00

PAY ROLL JUNE 1922

VENEREAL DISEASE

Dr. Jethra Hancock, Director	\$250.00
Margaret Flynn, Stenographer	125.00
Alberta Gerber, Clerical Assistant	85.00
Elwood Hamilton, Law Enforcement Officer	50.00
Mrs. Hazel Kresin, Clerical Assistant	100.00
Ruth Kuhns, Laboratory Assistant	125.00
Ruth McGuire, Laboratory Assistant	60.00
H. F. Leaming, Follow-Up Worker	90.00
Mrs. Maud M. Houston, Nurse at Convent of Good Shepherd	10.00
Harmon W. Marsden, Record Clerk, City Hospital	150.00
Dr. A. M. Barnett, Physician, Convent Good Shepherd	35.00
Dr. M. Y. Marshall, Clinician	50.00
Dr. A. F. Finley, Clinician	50.00
Dr. F. A. Stine, Clinician	100.00
Dr. J. M. O'Maley, Clinician	50.00
Dr. E. C. Roemele, Clinician	50.00
Dr. John F. Knox, Clinician	16.67
Dr. M. S. Davis, Clinician	87.50
Dr. Howard Lyon, Clinician	25.00
Nell Peterson, Laboratory Technician	125.00
Dr. P. E. Blackerby, Director, County Clinics (one-half) Salary	166.66



Mrs. C. H. Thompson, Stenographer (one-half)	
Salary .....	60.00
Dave Wilson, Janitor .....	60.00
Henry Martin, Janitor .....	60.00
Anna Peak, Mimeograph Operator .....	48.00

## PAY ROLL JUNE 1922

## TRACHOMA

Dr. C. B. Kobert, Director .....	\$250.00
Barbara Cochran, Nurse .....	125.00
Eulah Gass, Nurse .....	125.00
Tywan Allen, Driver .....	27.50
John L. Leglend, Clerk .....	22.00

## PAY ROLL JUNE 1922

## PRACTICE ACT

Mayme Sullivan, Chief Clerk .....	\$125.00
-----------------------------------	----------

## PAY ROLL JUNE 1923

## GENERAL FUND

Dr. L. S. McMurtry, President .....	\$100.00
Dr. A. T. McCormack, Secretary .....	250.00
Elva Grant, Bookkeeper .....	50.00
Henry Martin, Janitor .....	68.00
Lula Haskins, Janitress .....	40.00
Dr. L. H. South, Bacteriologist .....	200.00
Ella M. Bennett, Stenographer .....	100.00
Bessie Keeney, Technician .....	100.00
Ruth Callen, Technician .....	100.00
Dave Wilson, Janitor .....	60.00
Mildred Parsons, Elevator Girl .....	40.00
J. F. Blackerby, State Registrar .....	200.00
Nettie Ferguson, Stenographer .....	125.00
Rebecca Runner, Statistician .....	100.00
Louise Spurrier, Bookkeeper .....	65.00
Louise Sewell, Card Clerk .....	40.00
Katherine Gambert, Card Clerk .....	40.00
Gertrude Hiner, Card Clerk .....	65.00
Helen Seigel, Card Clerk .....	40.00
Rose Goldberg, Card Clerk .....	40.00
Otho Haskins, Janitor .....	80.00
Mattie Taylor, Janitress .....	24.00
F. C. Dugan, State Sanitary Engineer .....	275.00
Alberta Gerber, Stenographer .....	85.00
Helen Donaldson, Acting Director, Public Health Education .....	175.00
T. Q. Munce, Publicity Man .....	65.00
Dr. P. E. Blackerby, Director, County Health Work (one-half) Salary .....	166.66
Mrs. C. H. Thompson, Stenographer (one-half) Salary .....	62.50

## PAY ROLL JUNE 1923

## HOTELS AND RESTAURANTS

Sarah H. Vance, Director .....	\$200.00
Catherine L. Furey, Stenographer .....	80.00
Dora Greenburg, Copy Clerk .....	55.00
Hilda Loen, Stenographer .....	73.33
E. F. Worthington, Dairy Inspector .....	150.00
E. B. Weitzel, Inspector .....	150.00
C. S. Porter, Inspector .....	150.00

## PAY ROLL JUNE 1923

## CHILD HYGIENE

Dr. A. T. McCormack, State Health Officer .....	\$ 83.34
Dr. Annie S. Veech, Director .....	300.00
Dr. Juanita McF. Jennings, Assistant Director .....	250.00
Florence L. Hauswald, Nurse .....	50.00
Beatrice H. Robitaille, Nurse .....	150.00
Clara E. Fellows, Nurse .....	150.00
Lydia H. Spoeneman, Nurse .....	150.00
Mrs. Incz M. Roche, Nurse .....	150.00
Mary Atkins, Stenographer .....	125.00
Inez Gleeson, Stenographer .....	125.00
Anna Peak, Mimeograph Operator .....	60.00
Edna Burge, Telephone Operator .....	50.00
Mrs. C. B. Walker, Clerk .....	60.00
Violet Stiltz, Cashier .....	65.00
Cora Frankenstein, Clerk .....	60.00
Ernestine Wenz, Clerk .....	43.34
Myra McConnell, Nurse .....	100.00
Mrs. Blanch Carns, Nurse .....	125.00
Elva Grant, Bookkeeper .....	25.00
Marian Williamson, Director, Public Health Nursing (one-fourth) Salary .....	50.00
Emma Parmalee, Nurse .....	125.00
Myrtle Applegate, Nurse .....	125.00
Lula Johnson, Nurse .....	115.00
Caroline Lucas, Nurse .....	115.00
Pearl Schlosser, Nurse .....	115.00
Lillian McCabe, Nurse .....	110.00
Mary Glendenning, Nurse .....	115.00
Ruth Gamble, Nurse .....	100.00
Helen C. Garrettson, Nurse .....	110.00
Mary Weiland, Nurse .....	115.00
Emily Blake, Nurse .....	100.00

A. L. Bailey, Nurse .....	115.00
Louise Schreiber, Nurse .....	110.00
Lillian B. Cart, Nurse .....	115.00
Elsie Foster, Nurse .....	100.00
Dr. W. M. Lipscomb, Maternity and Child Health Educational Extension Worker .....	350.00

## PAY ROLL JUNE 1923

## VENEREAL DISEASES

Dr. Jethra Hancock, Director .....	\$275.00
Margaret Flynn, Stenographer .....	125.00
Marguerite Langley, Registrar, S. Service Police Department .....	125.00
Mrs. Myrtle Stanley, Nurse, Convent Good Shepherd .....	10.00
Jail (one-third) .....	33.33

T. H. Lehrberger, Follow-Up Worker .....	43.33
Joe Frazier, Follow-Up Worker .....	140.00
Sadie Janes, Laboratory Assistant .....	15.00
Dr. M. Y. Marshall, Clinician .....	75.00
Dr. F. A. Stine, Clinician .....	50.00
Dr. J. M. O'Maley, Clinician .....	100.00
Dr. E. C. Roemle, Clinician .....	50.00
Dr. A. M. Barnett, Physician at Convent .....	50.00
One-third County Jail .....	33.33

Harmon Marsdon, Record Clerk, City Hospital .....	68.33
	50.00

## PAY ROLL JUNE 1923

## TRACHOMA

Dr. C. B. Kobert, Director .....	\$200.00
Antoinette Kaelin, Nurse .....	100.00
Cordelia Bickett, Clerk .....	75.00

## PAY ROLL JUNE 1923

## TUBERCULOSIS

Dr. J. S. Lock, Director, Tuberculosis Clinics (one-half) Salary .....	\$150.00
Adelbert Thomas, Educational Instructor (one-half) Salary .....	75.00
Alexine Robertson, Clerk (one-half salary) .....	37.50

## PAY ROLL JUNE 1923

## PRACTICE ACT

Mayme Sullivan, Chief Clerk .....	\$125.00
-----------------------------------	----------

## RECAPITULATION OF ALL FUNDS

JULY 1, 1921—JUNE 30, 1923

## RECEIPTS

General Appropriation, July 1, 1921 to June 30, 1922 .....	\$ 76,300.00
Reimbursement from Hotel & Restaurant Fund .....	1,684.00
General Appropriation, July 1, 1922 to June 30, 1923 .....	70,000.00
Reimbursement from Hotel and Restaurant Fund .....	2,421.46
Appropriation Hygiene Fund, July 1, 1921 to June 30, 1922 .....	27,000.00
Federal Government Hygiene Fund, July 1, 1921 to June 30, 1922 .....	13,602.78
Federal Unexpended Balance .....	3,770.37
Appropriation Hygiene Fund, July 1, 1922 to June 30, 1923 .....	20,000.00
Federal Government Hygienic Fund, July 1, 1922 to June 30, 1923 .....	5,143.63
Appropriation for Experiment Station, July 1, 1921 to June 30, 1922 .....	18,000.00
Fees, Practice Act, July 1, 1921 to June 30, 1922 .....	3,669.76
Fees, Practice Act July 1, 1922 to June 30, 1923 .....	3,258.00
Fees, Hotels and Restaurants, July 1, 1921 to June 30, 1922 .....	7,253.31
Fees, Hotels and Restaurants, July 1, 1922 to June 30, 1923 .....	10,172.60
Appropriation, Trachoma, July 1, 1921 to June 30, 1922 .....	13,700.00
Appropriation, Trachoma, July 1, 1922 to June 30, 1923 .....	11,000.00
Federal Government Appropriation, Child Hygiene, to June 30, 1922 .....	10,452.00
Appropriation, Child Hygiene, July 1, 1922 to June 30, 1923 .....	21,298.84
Federal Government Child Hygiene, July 1, 1922 to June 30, 1923 .....	26,298.64
	\$ 345,025.44

## DISBURSEMENTS

General Fund, July 1, 1921 to June 30, 1922 .....	\$ 77,984.00
General Fund, July 1, 1922 to June 30, 1923 .....	72,421.46

Hygiene Fund, July 1, 1921 to June 30, 1922 .....	44,373.15
Hygiene Fund, July 1, 1922 to June 30, 1923 .....	25,143.63
Experiment Station, July 1, 1921 to June 30, 1922 .....	18,000.00
Practice Act, July 1, 1921 to June 30, 1922 .....	3,669.76
Practice Act, July 1, 1922 to June 30, 1923 .....	3,258.00
Hotels and Restaurants, July 1, 1921 to June 30, 1923 .....	7,253.31
Hotels and Restaurants, July 1, 1922 to June 30, 1923 .....	10,172.60
Trachoma Fund, July 1, 1921 to June 30, 1922 .....	13,700.00
Trachoma Fund, July 1, 1922 to June 30, 1923 .....	11,000.00
Child Hygiene Fund, July 1, 1921 to June 30, 1922 .....	2,748.63
Child Hygiene Fund, July 1, 1922 to June 30, 1923 .....	55,300.85
	<u>\$345,025.44</u>
	\$ 00.00

Oct. 2 Boyd Co. Health Dept...	625.00
Oct. 2 Scott Co. Health Dept...	625.00
Oct. 2 Harlan Co. Health Dept...	625.00
Dec. 30 State Board of Health ..	350.00
Dec. 30 Mason Co. Health Dept...	500.00
Dec. 30 Boyd Co. Health Dept...	625.00
Dec. 30 Scott Co. Health Dept...	625.00
Dec. 30 Harlan Co. Health Dept...	625.00
Dec. 30 Johnson Co. Health Dept...	625.00
1923	
Jan. 22 Daviess Co. Health Dept...	625.00
Apr. 2 State Board of Health ..	850.00
Apr. 2 Mason Co. Health Dept...	500.00
Apr. 2 Daviess Co. Health Dept...	625.00
Apr. 2 Scott Co. Health Dept...	625.00
Apr. 2 Boyd Co. Health Dept...	625.00
Apr. 2 Johnson Co. Health Dept...	625.00
Apr. 9 Rockefeller Foundation ..	1,250.00
June 26 Fayette Co. Health Dept...	625.00
	<u>\$17,900.00</u>
	\$17,900.00

## COMMENTS

It will be observed from the above tables of receipts and expenditures that there was neither a balance nor overdraft in either fund at the close of either fiscal year. It may seem a little strange that this would occur so regularly and uniformly. We have never found this to occur in any other Institution or Department. However, after checking each item and verifying it with the Auditor's books, are forced to admit that the figures are absolutely correct. It seems that expenditures are so regulated as to consume the revenues at the close of each fiscal year. Such a plan is certainly entitled to commendation.

We have gone to considerable pains to ascertain just what the State Board of Health has accomplished in the past two years. While we are not technically competent to pass on all phases of governing and operating a State Board, we do feel competent to pass on the business status and management and whether or not the State's money has been well or recklessly spent. As a result of a most thorough and complete investigation into the details of the Board's activities, I submit the following as a history of what they have accomplished.

Your Examiner is deeply obligated to the officers and employes of the Board for their very valuable assistance in gathering and compiling what we have to say on the various subjects.

During the biennial period which this report covers it is pleasant to note the continued progress in the work of all the departments of the State Board of Health. My examination of the records of the Board for the preceeding biennial period has enabled me to keep its work especially in mind when examining other departments of the State government, and I have incidentally investigated its local work in the various counties as opportunity has arisen and have made note of suggestions and criticisms that have been

RECEIPTS AND DISBURSEMENTS INTERNATIONAL HEALTH BOARD AS PER NEW BUDGET SYSTEM, JULY 1, 1921 TO JUNE 30, 1922.

RECEIPTS			
1921			
July	1	International Health Board.....	\$ 4,475.00
Oct.	4	International Health Board.....	4,475.00
1922			
Mar.	11	International Health Board.....	3,975.00
Mar.	31	International Health Board.....	4,975.00

DISBURSEMENTS			
1921			
July	1	State Board of Health ..	\$ 850.00
July	1	Mason Co. Health Dept...	500.00
July	1	Daviess Co. Health Dept...	625.00
July	1	Boyd Co. Health Dept...	625.00
July	1	Scott Co. Health Dept...	625.00
July	1	Harlan Co. Health Dept...	625.00
July	1	Muhlenberg Co. H. Dept.	625.00
Oct.	4	State Board of Health ..	850.00
Oct.	4	Mason Co. Health Dept...	500.00
Oct.	4	Daviess Co. Health Dept...	625.00
Oct.	4	Boyd Co. Health Dept...	625.00
Oct.	4	Scott Co. Health Dept...	625.00
Oct.	4	Harlan Co. Health Dept...	625.00
Oct.	4	Muhlenberg Co. H. Dept.	625.00
1922			
Mar.	11	State Board of Health ..	850.00
Mar.	11	Daviess Co. Health Dept...	625.00
Mar.	11	Boyd Co. Health Dept...	625.00
Mar.	11	Scott Co. Health Dept...	625.00
Mar.	11	Harlan Co. Health Dept...	625.00
Mar.	11	Muhlenberg Co. H. Dept.	625.00
Apr.	11	State Board of Health ..	844.02
Apr.	11	Mason Co. Health Dept...	1,000.00
Apr.	11	Daviess Co. Health Dept...	625.00
Apr.	11	Boyd Co. Health Dept...	625.00
Apr.	11	Scott Co. Health Dept...	208.33
Apr.	11	Harlan Co. Health Dept...	625.00
Apr.	9	Internat'l Health Board ..	5.98
Apr.	9	Muhlenberg Co. H. Dept.	625.00
May.	19	Scott Co. Health Dept...	416.67
			<u>\$17,900.00</u>
			\$17,900.00

RECEIPTS AND DISBURSEMENTS INTERNATIONAL HEALTH BOARD AS PER NEW BUDGET SYSTEM, JULY 1, 1922 TO JUNE 30, 1923

RECEIPTS			
1922			
July	20	International Health Board.....	\$ 4,475.00
Sept.	26	International Health Board.....	4,475.00
1923			
Dec.	30	International Health Board.....	4,475.00
Mar.	21	International Health Board.....	4,475.00

DISBURSEMENTS			
1922			
July	20	State Board of Health ..	\$ 850.00
July	20	Mason Co. Health Dept...	500.00
July	20	Daviess Co. Health Dept...	625.00
July	20	Boyd Co. Health Dept...	625.00
July	20	Scott Co. Health Dept...	625.00
July	20	Harlan Co. Health Dept...	625.00
Oct.	2	State Board of Health ..	850.00
Oct.	2	Mason Co. Health Dept...	500.00
Oct.	2	Daviess Co. Health Dept...	625.00



given to me by many citizens of the State and am basing this report on a very careful study of the numerous details of the Board's work.

It is a pleasure to commend its very careful fiscal system. By re-arrangement of the offices, as suggested in my last report, the physical work of keeping and caring for the Board's complicated financial system has been made much more pleasant and effective. The most modern equipment has been installed in one of the pleasantest rooms of the building. The records of the receipt and expenditure of money are so complete and so carefully kept that the technical work of their investigation has been made very easy.

The president and secretary of the Board form its finance committee and at its annual meeting they report a detailed budget for each of its activities and covering all its sources of revenue. This is examined and modified or approved by the full Board and the cashier makes a weekly and monthly comparative financial statement to the secretary so that the exact status of each department is constantly kept properly balanced. The payroll and accounts are submitted to the secretary on the 20th of each month. After their approval in detail and in general, voucher checks are drawn and submitted to the president for his approval and signature. An itemized statement is then sent with the necessary vouchers of the State Auditor where the accounts are again carefully checked and examined and warrants are drawn on the State Treasurer for the necessary cash. These warrants are deposited in the bank and the voucher checks are immediately issued. As soon as they are cashed, the duplicate checks are stamped by the bank and deposited with the State Auditor. Contingent funds well within the percentage allowed by the uniform accounting law, are drawn to the various bureaus and are accounted for with them before additional amounts are drawn. All moneys received and expended are immediately entered upon the books. I have taken all these various accounts, in detail and have found them to be authorized by law and that the expenditures have been economical and the results obtained have been out of all proportion to the expenditures. Comparative statements of the cost of public health work in other states indicate that the work in Kentucky is quite as adequately done as in any other state, more so than in most of them, and at the lowest per capita cost. As in other departments of the State government the salaries paid for personal services are

lower than those in any other state that is doing effective work. I find that the members who compose the State Board of Health have an intimate knowledge of its workings. Meetings are held sufficiently often and the heads of all the bureaus are present at each meeting and make detailed reports covering their work so that the policies of the Board are controlled by its entire membership.

I note with especial approval that the general policy of the Board has been to expend as much of its income as possible, and in far larger proportion than in any other state, in the stimulation and support of local health agencies in the several counties. This is of especial importance because it is evident that with the small appropriation made to the State Board of Health its highly trained personnel cannot hope to meet with sufficient numbers of the individual citizens to assist them in the solution of their personal health problems. Local organizations in the various counties, which are accessible to their citizens, are essential to an adequately developed health movement in the State. These local agencies are controlled locally. The work in the five counties of the State is as different as the varying problems which confront them. The State Board of Health holds its expert bureau chiefs ready to respond to the call of any of these local agencies when the need for their consultation is felt. The correspondence which is on file indicates the rapidly increasing demand on its expert personnel. This accounts for the considerable increase in travelling expense noted over the preceeding biennial period. It would be idle to provide for these various specialists in public health without arranging for their getting to the people of the various counties as they need them.

As authorized by law, the Board has kept in close contact with the great national agencies that promote public health and have provided for representation at each of them so the citizens of Kentucky could have the advantage of every development in public health administration and practice. This has been a wise expenditure of public funds. The secretary of the Board was last year president of the Conference of State Provincial Health Authorities of North America and has been a member of its Executive Committee since its organization in 1917. The contacts which he has been able to make in attendance upon these meetings have been of the greatest value to the work in this State in every way, but they especially enable him to secure contributions from the outside agencies which have enabled both the State and local work to be made far more effective.

## SCHOOL OF PUBLIC HEALTH.

In my report for the preceeding biennial period I noted organization and development of the Bureau of Public Health Instruction and the establishment of the School of Public Health. This Bureau has continued its effective work in providing trained personnel for the counties which needed them. I find that no other state has yet made arrangements for such complete training. This is of fundamental importance. Every citizen is interested in his health and that of his neighbor. He is willing to spend money for obtaining good health but it is essential that the State shall erect such standards that those employed in this work will be effective so that they can do it both well and economically. Outstanding amongst the achievements of this Bureau were the holdings in 1922 and 1923 of large health expositions in Louisville and, in co-operation with the U. S. Public Health Service, of health institutes in connection with the Conference of County and City Health Officers, provided by law. The first Health Exposition, which was the second held in the United States, was financed practically without cost to the State. While tremendously successful from an educational standpoint, it developed certain lines of weakness that caused the Board to feel that it should provide more intensively for certain lines of work in the second exposition at its expense, and it arranged for the compensation of an assistant in this Bureau who should act as organizer of the Exposition and for the conference on baby health, at which it mobilized all of the public health nurses in the State so that they might return to their various counties and hold similar baby health conferences. The Board feels that this was the most successful piece of public health education which it has ever undertaken and that the effect of it will be felt for years in improved local health administration.

## REGULATION OF THE HEALING ART.

During this biennial period, and during the preceeding one, especial attention has been given to the administration of the statutes regulating the practice of the healing art. The General Assembly of Kentucky since 1888 has very wisely established this regulation on a public health basis solely. It has consistently required the same basic examination in the fundamental branches of anatomy, physiology, pathology and public health by the State Board of Health, and the examination in the branches peculiar to any of the older or to any newly developed school of the healing art by examiners selected by

such school. The procedures of the Board have been so eminently fair that they have met with approval of all of the schools of practice excepting one branch of one the newly developed schools, which has been in open rebellion against the law which they assisted in putting on the statute books and, in a number of counties, they have secured the importation of practitioners of their school who have openly flouted and defied the law. This bold and defiant attitude of what might be termed these bootleggers in medicine has naturally produced a wholesome reaction amongst the practitioners of this new school and a number of them have joined together in an association to support the enforcement of the law. I have carefully examined the methods used by the Board in the examination and enforcement of this statute. The questions submitted to students of all schools in fundamental branches are the same. The identity of candidates cannot be known in any instance to the examiners. I have gone carefully over the questions and answers and have been present at meetings where the grades were being considered and I found representatives of all branches of the healing art and numerous visitors present. All matters coming up were considered frankly and openly. There was not at any of these meetings any discussion as to the school of practice of the various candidates and I found the several members of the Board and the examiners representing the various schools to be most wholesome. They were evidently actuated by a desire to secure for the people of the State additional competent practitioners of the healing art of whatever school, and the only persons examined who failed were obviously incompetent and were about equally divided between the various schools of practice, as it was indicated when the envelopes accompanying the names were finally opened. I find in many states there are multiple boards of examiners each representing a different school of practice of the healing art. It is quite obvious that no matter how competent or honest such boards are, if there be one unscrupulous, unqualified or dishonest one amongst them, it will flood the State with incompetence. Those familiar with our medical history know that this was the case in Kentucky before the law of 1888 was put on the statute books. At that time there were in the State between 1800 and 2000 men who either had not attended a school of any sort or who had attended the poorer ones for such a short length of time as to be actually dangerous to the people they treated. Since that time the standards of medical education have vastly improved



and the average of the personnel of this profession in this State has become much higher. This is indicated by the fact that in 1888 the death rate was 28 in each thousand of our citizens while in 1923 it was 10.7. These figures indicate that the average of human life has been extended in this comparatively short period between 12 and 15 years. I have carefully examined the financial statement under this act and find that the income is accurately accounted for and that the expenditures are authorized by law and are economical.

#### MATERNAL AND CHILD HYGIENE.

The Bureau of Child Hygiene was created by the General Assembly of 1920 but the appropriation for it was made in 1922. This work has been the outstanding new development in public health work in the State. It is endeavoring to help the people lessen the preventable deaths amongst mothers and children and, through a Statewide educational program in maternal and child care, assist parents in rearing better, healthier children for the future of the State.

For the past year, four advisory nurses, working in four divisions of the State, have been, under the supervision of county health officers and co-operating with the county medical societies and interested citizens, assisting the local public health nurses in establishing permanent child health conferences or health centers. At these centers children are examined by the physicians and the mothers are instructed there or in their homes in child care and practical literature in plain English, prepared by the Board, is given to them. Such intensive work has been done in 42 of the 120 counties. In 31 of the counties, 132 permanent child health centers have been established. From each of these centers a survey of the pre-school children has been made and permanent groups of voluntary conference helpers have been organized. In these centers many health talks have been given before audiences organized by women's clubs, men's organizations, churches and schools.

During the end of the year, authorized by law, all the public health nurses in the State were mobilized in Louisville at the Health Institute, a large part of which was given over to consideration of maternal and child health. As before mentioned, the nurses were also given the opportunity of service in the child and adult health examinations at the Health Exposition so that they could assist in the organization of similar examinations their home counties. I find that nine child

health conferences were held in community and county fairs in sections where there has as yet been no active local health work. At these conferences, approximately 850 children were weighed and measured and careful physical examination was made of each child and instruction of their care given to the mothers.

The Bureau of Child Hygiene and the Bureau of Vital Statistics have together made a great study of both mothers and infant mortality rates and for the pre-school death rate for each county of the State and the results of this study were exhibited at both the State Federation of Women's Clubs and at the State Medical Association. Materials and methods from the Bureau of Child Hygiene were exhibited at twelve other county fairs. A very careful program of health work has been outlined for home demonstration in the various counties both by representatives of the health departments and for home economic teachers in schools, colleges, the University and the normal schools. This starts with the first feeding of infants and continues through the pre-school age and includes the planning of suitable clothing for the expectant mother and the clothing and care of the baby. The Bureau is co-operating very closely with the remarkable prenatal clinic in the Louisville City Hospital. This clinic is a teaching center where correct prenatal teaching is placed before the undergraduate nurses and medical students, as well as post-graduate physicians and nurses from out in the State. This work is considered of vital importance as it gives to the students the very latest methods in prenatal and obstetrical care. A monthly report in the Kentucky Medical Journal, which reaches all the physicians in the State, is made of all the obstetrical cases delivered in the Louisville City Hospital and is the outgrowth of this clinic. This is one of the most important developments in obstetrical practice in the United States.

In ten county seats classes of instruction for midwives were conducted by nurses of this Bureau under the supervision of county health officers. Annual permits were given to the midwives who received the instruction. The silver nitrate drops for the prevention of ophthalmia neonatorum are furnished by the Board to any physician who wishes it and midwife, to be used in the eyes of a newborn. As it is evidently impossible to provide for the care of all our babies without knowing their location and condition, this Bureau, co-operating with the Bureau of Vital Statistics, has had a representative in practically half the counties of the State assisting in increasing interest in birth registration. The

importance of birth registration cannot be emphasized too frequently to the people of the State

Co-operating with the Bureau of Public Health Education, this Bureau has prepared a weekly newspaper article on "The Care of the Baby," which is sent to and published by practically all of the newspapers in the State. It is interesting to note that the purchase of the space donated public health education of Kentucky by its newspapers would cost much more than the entire appropriation for the maintenance of the State Board of Health if paid for at the ordinary rates. This Bureau also furnishes to the Burley Grower and to the Club Woman monthly articles on child health. I find that the representatives of this Bureau alone addressed meetings which were attended by a total of more than 20,000 persons. It distributed a quarter of a million pieces of literature on child and maternal care and has the record of more than 10,000 examinations of babies made during the year. Besides this, it has the records of 25,000 examinations of school inspection work in counties in which it has not heretofore been done. From the funds appropriated for the support of this Bureau, I find that twenty-five counties have received financial aid to promote child health work. It is of interest to note that the Director of this Bureau, a Kentucky woman physician, has been offered the position of Director of the Division of Child Hygiene in the Children's Bureau at Washington, which would put her in charge of work done under the Sheppard-Towner law in all of the states. This is a great honor for the State Board of Health of Kentucky and the State is to be congratulated that Dr. Annie Veech feels she owes her first duty to the women and children of her native State.

**Tuberculosis:** The plan of campaign against tuberculosis differs from that in many other states in that it has been educational rather than institutional. From the beginning of this work, the State Board of Health has received the co-operation and support of a forward-looking group of men and women who composed the State Tuberculosis Association and afterwards were efficiently organized as the State Tuberculosis Commission. At the beginning it was estimated that there were more than 60,000 open cases of tuberculosis in the State and the death rate was the highest in the United States from this disease. Health and welfare leagues were organized in as many counties as possible and public health nurses were employed by them, assisted and stimulated by the State aid fund for nurses. More than half of the counties

in the State now have these public health nurses. The passage of the physical education law in 1920 and the acquisition of the State Tuberculosis Sanatorium the same year as a diagnostic and teaching center for this disease were noteworthy advances. It is of interest that the death rate from tuberculosis in Kentucky, while still far too high, has been reduced more rapidly than in any other state and at less than one per cent of the cost in many of them. The establishment of the Fayette County Tuberculosis Sanatorium and its very effective conduct and management has been one of the contributing factors in this reduction. The permanent tuberculosis clinics in the City, which I commended in my last report, have been effectively functioning throughout the year. In addition to this, the educational and diagnostic clinics in tuberculosis were held in forty counties in co-operation with the county medical societies. During these clinics, careful chest and lung examinations were made for 2616 people and 605 cases of tuberculosis were discovered. Besides those examined there were more than 15,000 persons in attendance at these clinics and all of these heard lectures and illustrated talks on tuberculosis and other preventable diseases. Literature on the prevention of tuberculosis was placed in the hands of persons representing 3,500 homes at these clinics. As direct result of this work, the State Sanatorium for the first time in its history has had a waiting list for many months. Co-operating with the State Board of Education in the teaching of health in the schools, as provided for in the physical education law, the Bureau of Tuberculosis has had an Educational Secretary on its staff for many years. This position was formerly and effectively filled by Miss Jessie O. Yancey, who is now doing intensive community work along this same line in Fayette county. Miss Adelbert Thomas, her successor, has spent one or more weeks in each of the counties which she has covered, actually demonstrating the teaching of health and recreation. She has, also, spent some time in each semester at the normal schools and State University, co-operating with the departments of health at these institutions so teachers will know the subject matter and how it should be taught to the school children all over the State.

It is interesting to note from the records that more than ten times as many letters are received by this Bureau, containing requests for literature, suggestions, advice and lectures, as were being received two years ago.

The State Tuberculosis Sanatorium is a



unique public institution. It is the only State tuberculosis institution in the United States which is supported solely by its pay patients and which contains no free beds. It is particularly unfortunate that it has less than a hundred beds. During the past two years, from its income it has not only supported the institution better than it was ever done before, but a home for the superintendent and his family has been built, a home for the nurses has also been constructed, the dining room and kitchen have been completely refurnished with modern equipment, fire escapes have been erected, a concrete road has been built through the ground and the latest X-ray and other diagnostic and therapeutic equipment have been acquired.

I cordially recommend that an additional appropriation be made for the erection of a building containing private rooms for pay patients and, also, for the care of at least 100 free patients in the incipient stages of the disease. It has been demonstrated that such patients, spending from three to six months in the institution, can return to their homes taught how to earn a living in spite of the physical handicap of having gone through with this disease. Such persons become teaching centers wherever they are located and the investment to the State would be small in comparison with the returns. A building with fifty private rooms for pay patients would be self-supporting and within a few years the cost of its erection could be paid from its income.

I desire to especially commend Dr. S. W. Bates, the superintendent of this institution, for the efficiency and economy with which it is conducted.

The appropriation of \$10,000 for work for the Bureau of Tuberculosis last year was wisely expended. Unquestionably, hundreds of cases of this once hopeless disease were put on the road to recovery by its activities. I would recommend that this appropriation be increased during the next biennial period so that an additional clinic unit can be in constant operation.

#### FOODS, DRUGS AND HOTELS.

During the last two fiscal years, the Bureau of Foods, Drugs and Hotels has increased its activities and has accomplished practically twice as much in inspectional work as in the two preceding years, during which five times as much of this work was done as had ever been done before. Since July, 1922

there has been added an additional inspector who has had especial charge of the supervision of dairies and dairy products. In January, 1923 an additional clerk was added to the office force, the increased demand on the Bureau making this a necessity.

In 1919 there were 1,362 inspections made by this department; in 1920, 2,816; in 1921, 3,360; in 1922, 4,512, and the first six months of 1923, 3,435.

There was a similar increase in the collection of food and drug samples, while the number of dairies inspected was increased from 12 in 1919 to 612 in 1922, and 320 in the first six months of 1923. The most important food product of Kentucky is its dairy products. These are increasing rapidly and can be increased indefinitely if the dairy men can be given help that they ask. During the past year, the Bureau has not been able to make one inspection for every ten requested and it cannot do so without an increase in the number of inspectors. Milk is the most important food, especially for the children of the State. The demand for it can be increased just as rapidly as assurance can be given to the public of its cleanliness and purity. No other state where dairy products are produced in the same quantity as Kentucky have less than six dairy inspectors, and many of them have more than this. I cordially recommend that the appropriation for this division of the Bureau be increased sufficiently to provide for one additional inspector for the next two years.

During the last two years, the improvement of the sanitary condition of our hotels and restaurants has been marked. Many towns have responded to the demands for improved conditions by the erection of new hotels. An additional inspector is urgently required in this branch of work, also. This Bureau should, also, have a food inspector for co-operation with the food producing establishments and with the groceries of the State. The egg candling law, passed by the last legislature, when properly enforced will mean an increased income of several million dollars for the same number of eggs and its enforcement is of the utmost importance to the farmers of the State.

The demands on the State Laboratory at the Experiment Station, Lexington, are now so great that the annual appropriation of \$18,000 is not sufficient to enable it to do all of the work which should be done. I recommend that there should be an appropriation of \$10,000 annually for laboratory work done directly under the supervision of the Director of the Bureau.

## VITAL STATISTICS

No other department of public health work is more important than the collection of vital statistics. It provides a permanent record of every birth and death occurring in the State and from the statistics compiled from these records gives us an invoice of health conditions absolutely essential to the successful promotion of all public health work. During the past few months a very extensive survey by the United States Census Bureau has demonstrated that while over ninety per cent of the births and deaths occurring in the various counties are being properly recorded, the fact that there are both births and deaths not being recorded should be brought to the attention of the grand jury of the State with view to the indictment of those responsible for any neglect. The Bureau of Vital Statistics is conducted on a lower salary basis than that of any other state in the registration area of the United States. The Federal Department of Commerce has recently made a tabulation of the comparative cost of birth and death registration in forty-four states. This shows that the per capita cost in Kentucky of .006 is 20 per cent below the average. At this small expense this Bureau is publishing in well bound volumes, at five-year intervals, complete alphabetical index lists of all births and deaths, which are furnished free to every county clerk and public library in the State.

In 1922, the registration district in the State was revised to care for the largely increased number of voting precincts. Pursuant to the act of the last General Assembly, changing the manner of appointment of local registrars, the entire organizations of 1,300 registrars was rebuilt. This required many hours of additional labor on the part of the employees of this Bureau without additional salary.

The fees collected for certified copies of birth and death certificates that were remitted to the State Treasurer totaled \$2,000, and I recommend that this amount be made available for the employment of an inspector for this Bureau.

## SANITARY ENGINEERING

There is no more important work than that conducted by this Bureau in Kentucky. Mr. Frank Dugan, the State Sanitary Engineer, a graduate of the State University, and one clerk constitute the department.

As there are 150 public water supplies in the State, all but two or three of which require to be visited from one to several times

each year, it is a manifest physical impossibility for one man to give them the attention that is necessary. The death rate in Kentucky from typhoid fever has been reduced 65% in thirteen years. It can be reduced to one-tenth of this per cent as has been demonstrated in many other states by the development of an adequate department of Bureau of Sanitary Engineering, and I recommend that a sufficient appropriation be made to employ an assistant engineer, a draftsman and two technicians to do the laboratory work, directly under the supervision of the State Sanitary Engineer.

## VENEREAL DISEASES

Carefully kept records in this department show that 41,048 cases of syphilis, 21,870 of gonorrhea and 674 chancroid have been brought under treatment and control in its clinic during the past two years; 1,311 infected persons have been placed in quarantines; 1,470 slides have been examined at the laboratory in Louisville for gonorrhea and 54,195 Wassermans were made for the diagnosis of syphilis at the Public Health Laboratory in Lexington; 501 lectures have been delivered in almost every part of the State on the subject of venereal disease control, and educational moving pictures and films have been exhibited in many parts of the State through the courtesy of the owners of motion pictures houses; 235,000 books and pamphlets have been distributed from this Bureau; 10,322 ampules of neosalvarsan were sold to the public institutions at cost and 3,855 ampules of this drug were sold at cost to the physicians of the State; 19,117 ampules were used in the venereal disease clinic in the treatment of indigent cases. This Bureau has closely co-operated with 29 local venereal diseases clinics for the free treatment of indigent cases of infections venereal diseases. These clinics are distributed throughout the State at the most convenient centers. It is important to realize that heretofore racially none of these were treated and their victims, ignorant and neglected, are causing much of the increase in our criminal, insane and defective cases. It is estimated that 25% of the inmates of our asylums are there because of neglected syphilis. The work of this Bureau means great reduction in insanity and its by-products. Hundreds of girls have been removed from surroundings in which they were a menace to the community to institutions where they could be kept under surveillance. To cite one instance from the many dramatic ones contained in these records, a girl suffering from a highly infectious venereal disease had



exposed 64 men and boys during a period of three months, practically all of the boys being pupils of one of our most highly respected educational institutions.

It is a pleasure to note the close co-operation between this Bureau and the State Board of Charities and Corrections in the management of these diseases in the penal and eleemosynary institutions. The results obtained in this one field of activity alone warrant all the expenditures that have been made for this Bureau since its existence.

It is noteworthy that in spite of the reduction of the appropriation for this Bureau to less than half of the amount for the preceding two years that it has not only maintained all of the clinics that then existed, by securing additional local fund, but that it has increased their activities and created several new practically self-supporting clinics. When one sees the actual result secured by this activity in the actual protection of people who are suffering from a disease which threatens the destruction of the race itself, it is impossible not to feel that the appropriation should be increased from year to year, rather than decreased, until its work reaches every section of the state so that every individual in it may know of the ravages and dangers of venereal diseases, and may be treated until cured, if necessary.

Another dramatic incidence recorded was the declination of a parole of an ex-soldier boy of penalty in the penitentiary from a county in which there was no such a clinic, so that he might remain in the institution until cured. Comment is unnecessary on a suggestion that from many parts of the State poor boys and girls have to go to the penitentiary or asylums in order to get treatment for this class of diseases.

The policy of this Bureau, as of other bureaus of the Board, has been to put these clinics and all of the activities in this work in the hands of local authorities, and the response following the practical demonstration of the work has been one of the most wholesome indications of the value of public health work.

The Bureau has found it practicable to employ trained inspectors to ferret out and get reliable data for local health officers and physicians for the better control of venereal diseases. It is interesting to note that these young men are ex-service men in the world War, trained under the Federal Vocational Training in the School of Public Health, conducted in the State Board of Health Building in co-operation with the University of Louisville. The work of this Bureau is cordially commended.

#### HYGIENIC LABORATORY

This is the second oldest bureau of the Board. Its work is the very foundation of the public health movement.

23,167 specimens of diseased products were examined. Of these 4,828 were for tuberculosis and 4,625, diphtheria.

243 treatments for rabies were sent out to the physicians of the State. Utilization of a recent discovery has enabled the laboratory to distribute large quantities of anti-rabic vaccine to immunize dogs and other animals, and thus do away with the menace of this disease at its source; 120 anti-rabic treatments were administered in the laboratory free.

11,145 free immunizations against typhoid fever were distributed and used by health officers and physicians; 1,400 water analyses were made with view to discovering and cleaning up public water supplies, thereby reducing typhoid fever.

23,025 immunizations against colds and the complications of pneumonia were distributed and used by the physicians, as were 2,520 immunization against whooping cough; 51 vials of autogenous vaccine for special cases were made.

10,990 packages of biological products were distributed in practically every county in the State at the wholesale price made in a contract with one of the most prominent biological manufacturers.

5,288 examinations were made for hookworm and other intestinal parasites, and recent re-survey made by International Health Board shows that Kentucky has made the most rapid progress of any state in the reduction of the incidence of hookworm disease.

A new branch of work has been the assistance given the dental profession in the diagnosis of Trench Mouth, a very contagious condition which has increased alarmingly in this State since the War. A vaccine has been made in the laboratory which assists in the rapid cure of many of these cases.

It will be noted that the activities of the laboratory alone, if charged for at the lowest ordinary rate paid for similar service, would amount to much more than the entire appropriation for the State Board of Health. It is of still greater interest and importance that practically none of this work would have been done at all, and the health and lives of the citizens for whom it was done would have been impaired or destroyed without it.

In connection with the School of Public Health, and as a by-product of the routine

laboratory work, there have been constantly in training for the last two years classes in laboratory technicians. These young men and women are qualified to do laboratory work in the various city and county health departments in this and other states and its graduates are receiving salaries from \$100 to \$175 a month. Many of them are now working in the laboratories of several state health departments and in the great educational institutions of the country. This course is conducted without any expense to the State.

In addition, for four hours each week classes in practical bacteriology are conducted for the student public health nurses and sanitary inspectors of the School of Public Health, University of Louisville.

The director of this Bureau has made numerous demonstrations before the Women's Club, Parent-Teachers Association and Medical Societies on the prevention of diphtheria and other infectious diseases.

#### TRACHOMA AND CONSERVATION OF VISION

During the past two years, both the Bureau of Trachoma of the State Board of Health and that of the U. S. Public Health Service, the later co-operating with the Red Cross, have conducted clinics in every section of the State. It is interesting to note that in every instance where second clinics have been held increasing numbers of those afflicted with this miserable disease come in for operation. The State Board of Health feels that Dr. John McMullen, the Surgeon of the U. S. Public Health Service (who has been in charge of this work since 1912,) has made one of the greatest contributions to public health that has ever been made in the demonstration of a simple operation which affects a cure in the early stages of this disease. The statistics of the Bureau of Trachoma indicate that the disease in the State has been reduced so that there are not now more than 20% as many cases as there were five years ago. Besides the work of these public clinics, with the indigent and for school children, physicians in every part of the State, who do operative work on the eye, are treating these cases and many of these specialists have conducted clinics in their general neighborhoods, which have been large contributing factors in the reduction of the disease. It has been an incidental development that a very large proportion of children having trachoma also have enlarged tonsils and adenoids and, for this reason, the State work has included operations for these conditions when necessary. I believe it would be far

wiser to establish an additional travelling clinic that this source of danger may be eradicated quickly rather than to extend the campaign over a long number of years, necessarily having a larger number of infected persons develop.

#### BULLETIN FOR PUBLIC HEALTH WORKERS

The work of the Bureau of Public Health Education, noted in the last number, has been continued effectively. The school of Public Health is well conducted. The Bureau of Public Health Education has developed a bulletin which is distributed amongst the health workers in the State giving them news of one another's activities, and the new developments in public health technique has been of great value. This Bureau has, also, distributed through the newspapers of the State hundreds of columns of matter, and it is of interest to note that this has been used by practically every daily and weekly paper of the State and frequent editorials are appointed to its value.

#### PUBLIC HEALTH NURSING

The Bureau of Public Health Nursing, closely co-operating with the Bureaus of County Health Work, Child Hygiene, Tuberculosis, and Venereal Diseases, has continued to place nurses in new counties with greater rapidity for the past two years than ever before. While the State aid fund for public health nurses is not paid directly to the State Board of Health, it is to be noted here that it will be practically exhausted by January 1, 1924, and the legislature is urged to make an emergency appropriation to provide for the increased demand upon it. This is one of the wisest expenditures the State makes. As result of this appropriation, which was originally secured through the wise statesmanship of the late Mrs. Desha Breckinridge and Miss Linda Neville, the various health and welfare leagues of the State are raising—through local, private and official contributions—\$90 to \$100 a year to provide for the salaries and maintenance of public health nurses as result of the expenditures on the part of the State of \$10,000 a year. This fund should be greatly increased so that there will be at least \$25 a month State aid available for each county in the State as they get ready to use it.

#### ALL-TIME COUNTY HEALTH WORK.

It seems to be agreed by all public health administrators that local county health work is the fundamental agent in improving public health conditions. In Kentucky, this is un-



doubtedly the case. If the results secured in the counties for all-time county health departments could be made known to and understood by the citizens of the other counties there would unquestionably be an all-time health department in every county of the State as soon as trained personnel could be secured. The report of the Director of this Bureau shows in detail how wisely this money has been administered. I have suggested to the Board the advisability of manifolded copies of the reports for the last two years and placing in detail just how this work is done. It is of interest that the General Assembly of 1920 provided for State aid of \$2,500 for properly constituted and financed county health departments. It is recommended that an appropriation be made specifically for this purpose and that the amount be increased by two or three counties each year until the entire state has been covered, just as rapidly as it is possible to secure additional trained personnel and the Board will not permit new departments to be created until adequately trained personnel is available.

#### THE STATE BOARD OF HEALTH BUILDING

The splendid building at Sixth and Main was purchased three years ago for \$33,100. Of this amount \$24,100 has been paid and it is urged that an appropriation of \$9,000, the balance, be made to pay off the mortgage to the Equitable Life Assurance Society. Of this amount \$7,500 was paid from an appropriation made by the last General Assembly and the balance has been paid from the incidental income of the Board, practically all of it without expense to the State.

It is to be noted that the personnel employed by the Board is practically continuous in service. Entrance to the clerical positions comes in the lower salaries and promotion is gradual and it is based upon tenure and efficiency. A careful check system is kept on the time of all officers and employees and the promptitude and regularity of service is noteworthy. It is of interest that no head of a department has ever left the State Board of Health of Kentucky except to accept employment in a larger field and at a considerably increased compensation. I find that during the past two years practically every bureau chief has been offered opportunities for service in other states at larger salaries. The loyalty to the service has prevented them from accepting these positions.

It is to be noted that each month the annual budget which has been approved by the

Board is presented by the Cashier to the Secretary with a statement of the amount expended during the month, the amount expended for the same activity last year, with the totals for the appropriation, so that the work is accurately and constantly kept in hand and the income of the Board accurately distributed over its year.

In conclusion, I can say that no other department of the State Government shows more efficient management nor more economical expenditure of money. Its records are accurate and complete, and its work is of the very greatest value to the public which it serves.

Respectfully submitted

H. E. James,  
State Inspector and Examiner.

### REPORT OF THE EFFICIENCY COMMISSION ON THE STATE BOARD OF HEALTH

#### INTRODUCTORY:

The State Board of Health has its headquarters at Sixth and Main Streets, Louisville. As at present constituted, it derives its authority from Chapter 120 of the Laws of 1920, which is an amendment of Chapter 185 of the Laws of 1893 and Chapter 34 of the Laws of 1904. The duties of the Board in relation to the examination and certification of physicians are described in Sections 2611 *et seq.* of Carroll's Kentucky Statutes.

The administration of public health in Kentucky has advanced along all of the general lines of progress which have marked this field of public administration in other states. Public health control no longer relates merely to direct measures for dealing with the spread of contagious and infectious diseases, but has been extended to efforts designed to protect the individual against sources of disease of practically every kind which are beyond his control and within the control, to some measure, of the community.

There has developed a close and stimulating co-operation between state, federal and local agencies, corresponding in a general way with the scope of the various conditions with which public health authorities are called upon to deal. Methods have become standardized among the states, perhaps in a greater degree than is true of other departments of public administration, but in particular localities, special emphasis is necessarily required to be placed upon special phases of the work.

Public health administration, as now conducted, attacks disease from a number of very different points of view and brings to bear several entirely distinct types of service.

#### FUNCTIONS:

The functions of the Board of Health are described broadly in the statutes as the "general supervision of the health of the citizens of this state." The Board is authorized to collect and make use of records of the causes of sickness and death from sanitary investigations concerning the causes of disease and especially epidemics and endemics, the causes of mortality, the effects of localities, employments, living conditions, food and water supply, upon public health. It is empowered and directed to establish and maintain quarantine and make rules to prevent spread of diseases. The statutes themselves contain a considerable volume of legislation of a regulatory character, upon which statutory basis of regulation the Board of Health is expected to build. These statutes refer specifically to sanitary conditions in hotels and the purity of foods and drugs. Concerning the important matter of protection of water supply from pollution, the statutes are less specific.

Many of the functions of the Board are implied by the titles of the Bureaus which it is authorized to create and in the special appropriations for different types of service which have been made from time to time. Thus, the Department has received specific appropriations for combating trachoma and venereal diseases, and for child hygiene. The manner in which these specific types of services are to be carried on is, very properly, left largely to the Board itself. A somewhat incidental, but very important function exercised by the Board is that of licensing practitioners for the several schools of medicine. An important basis of this branch of control is the fact that Public Health administration rests in great measure upon accurate vital statistics and that the proper collection of such statistics includes determination of the qualifications of those who supply them.

In summary, then, the Board of Health may be described as a body which investigates, educates, regulates, and certifies. It operates in the engineering as well as the medical field; it deals with mental as well as physical causes of disease.

The Board of Health probably has a larger control over corresponding county and local officers than any other state department. Its powers in this direction extend practically to the selection of the County Boards of

Health and thereby to the selection and removal of the county health officers.

#### HISTORY AND DEVELOPMENT:

The Board of Health in its present form is one of the newer departments of government. Since 1918, it has had a rapid development. During this period the plan of organization has been changed, provision has been made for extension of its control over local health work. A number of bureaus with special phases of public health work have been established, the headquarters have been moved from Bowling Green to Louisville and housed in a commodious building.

During the same period the work of the Board in new fields has been stimulated by the financial co-operation of the federal government and the International Health Board.

#### SPACE OCCUPIED:

The Board of Health now occupies exclusively a four-story building in Louisville, built originally for bank purposes. This building contains about 12,000 square feet of floor space actually available for direct use by the various bureaus of the Board. One small room on the second floor is occupied by the State Tax Commissioner. From the rental of the basement a revenue of \$1,740 is derived for general purposes. The cost of this building was \$33,100, which has been met principally by special legislative appropriations, but in part from rentals and the general fund. A debt of \$9,000 remains to be paid in 1924 and 1925.

#### ORGANIZATIONS:

*Composition of the Boards:* The Board of Health consists of nine members, all of whom are required to be legally qualified practitioners of medicine, except one, who is required to be a recognized pharmacist. Eight members of the Board are appointed by the Governor, by and with the advice and consent of the Senate, from lists of three for each vacancy, nominated by the respective medical societies. The ninth member, who is secretary and state health officer, is elected by the Board. One member of the Board must be a homeopath, one an eclectic, one an osteopath, and the remainder of the physician-members, allopaths.

This plan of control has both advantages and disadvantages. In some respects, the Board is a law to itself, and while there is no indication that it has abused its authority the feeling that it may do so if held by many people may have the effect of making the Board needlessly unpopular and thus inter-



fere with its work. On the other hand, there is much to be said in favor of putting responsibility on the medical profession for leading the public health movement. If the entire structure of the state government is overhauled, it would, perhaps, conduce toward more good feeling on the part of the public toward the Board if it contained, say three lay members selected by the Governor with a freer hand than he now exercises in the case of the present membership.

**Administrative Organization:** For exercising its various functions, the Board has organized a number of bureaus, each under the supervision of a director, who, in turn, is subordinate to the state health officer. At the present time these bureaus are: Administration, Public Health Education, Sanitary Engineering, County Health Work, Bacteriology, Vital Statistics, Public Health Nursing, Pure Foods and Drugs, Child Hygiene, Trachoma, Tuberculosis and Venereal Diseases. In practice, the organization is not so formal as it would appear from this statement. The bureaus do not function in complete isolation from each other and exchanges of personnel from one bureau to another are frequent. Furthermore, a definite policy is pursued of having each bureau head become as thoroughly acquainted as possible with what is being done in each of the other bureaus. In the field work the functions of the different bureaus, especially those having to do with particular diseases, are merged to a very large degree.

From month to month numerous changes take place in the personnel, and numerous employes are on part time, so that it is difficult to set down what may be termed the permanent administrative staff of the Board. Below is given the organization of the various staffs approximately in the permanent form of each. In addition, the total amounts expended for temporary help is indicated:

## THE STATE BOARD OF HEALTH

### Statement of Income and Expenditures for the Fiscal Year 1922-1923.

#### Monthly

#### In General Charge, 2 officers:

President of Board (part time).....	\$ 100.00
Secretary and State Health Officer....	333.33

#### In Charge of Special Phases of Public

#### Health Work, 13 Directors, Reporting to the State Health

#### Officer:

County Health work.....	333.33
Bacteriology .....	200.00
Vital Statistics .....	200.00

Sanitary Engineering .....	266.66
Pure Food and Drug.....	200.00
Public Health Education .....	175.00
Venereal Diseases .....	268.75
Tuberculosis .....	300.00
"Modern Health Crusade".....	197.22
Trachoma .....	291.66
Child Hygiene .....	300.00
Assistant Director, Child Hygiene.....	263.56
Public Health Nursing.....	200.00

#### In Charge of Medical Examination, 1 Employee, Reporting to State Health Officer:

1 Medical Examiner (Part time), (Medical Practice Act).....	25.00
---	-------

#### Reporting to Bureau Heads, 10 Professional Employees:

1 Physician (Convent and jail, venereal work) .....	140.75
2 Nurses (Trachoma work).....total	150.00
4 Nurses (Child Hygiene work).....total	537.50
3 Follow-up Workers (Venereal Diseases) .....	149.58
3 Inspectors (Hotels and Restaurants)...	437.50
1 Educational Inspector.....	75.00
1 Attorney (Fees) .....	50.00

#### Miscellaneous Work, 2 Employees, Reporting to Bureau Heads:

1 Publicity Man .....	65.00
1 Collector (Hotels and Restaurants)....	31.00

#### Reporting to Bureau Heads, 3 Laboratory Workers:

2 Technicians (B. of H.).....total	153.00
1 Laboratory Assistant (Bureau of Venereal Diseases).....	79.10

#### Stenographic and Clerical Help, 25 Employees, Reporting to Various Bureau Heads:

1 Chief Clerk (Medical Practice Act)...	125.00
5 Stenographers (Board of Health) total .....	512.00
1 Stenographer (Venereal Diseases).....	125.00
1 Stenographer (Tuberculosis) .....	75.00
2 Stenographers (Child Hygiene).....	250.00
1 Typist (Child Hygiene).....	85.00
5 Card Clerks (Board of Health).....total	306.56
2 Record Clerks (Venereal Diseases) total .....	100.00
1 Cashier (Child Hygiene) .....	72.60
1 Multigraph Operator (Child Hygiene)	60.00
2 Clerks (Child Hygiene) .....	111.00
1 Telephone Operator .....	50.00
1 Bookkeeper (Board of Health).....	50.00
1 Statistician .....	100.00

#### Common or Special Labor, 8 Employees:

6 Janitors (Board of Health).....	305.75
1 Driver (Trachoma) .....	75.00
1 Clerk .....	\$13.00
Total Regular Officers and Em-	28.00

ployes: 64.

**TEMPORARY SERVICE.**

(The amounts given are the totals for the year.)

**Technical and Professional Service:**

Technicians .....	\$ 391.67
Assistant Director (Child Hygiene).....	330.00
Assistant Educational Director.....	500.00
Nurses (46 months) .....	5,275.00
Extension Worker (Child Hygiene) .....	700.00
Assistant Inspector of Birth Registration .....	700.00
Examiners (Day-work basis).....	580.00

**Monthly****Clerical Service:**

Stenographers .....	\$ 223.99
Card Clerks .....	215.99
Typists .....	645.82

**Ordinary Labor:**

Porter .....	\$ 19.50
--------------	----------

With respect to the duties performed by the respective officers and employes a sufficient explanation will be found in the later sections of this report dealing with the different branches of the work.

The work of the chief clerk, who is paid entirely out of funds created under the Medical Practice Act, not only performs a good many duties in connection with the licensing of physicians, but also functions as chief clerk for the whole department. Her duties include the assignment of clerks and stenographers, answering of ordinary requests for information, directing callers to the proper departments and supervising the discipline of the clerical and stenographic force. She has been connected with the department for fifteen years.

**REVENUES AND EXPENDITURES:**

The tables which follow show the total revenues from all sources and total revenues for the fiscal year ending June 30, 1923. The items as presented to the Budget Appropriation Commission have been re-classified on a functional basis.

**INCOME****General:**

State Appropriations .....	\$ 77,500.00
Federal Appropriations ....	2,000.00
Contributions from 8 counties and 2 Cities.....	28,583.15
Receipts from Foundations and Companies.....	17,979.50
Miscellaneous Collections ..	11,912.60

Total ..... \$137,975.25

**Bureau of Tuberculosis:**

State Appropriations .....	10,000.00
----------------------------	-----------

Receipts from Tuberculosis Association.....	4,032.10
---	----------

Total ..... 14,032.10

**Bureau of Visiting County****Nurses:**

State Appropriations .....	\$ 7,500.00
----------------------------	-------------

**Bureau of Trachoma:**

State Appropriations .....	\$ 11,000.00
Sales .....	575.00

Total ..... 11,575.00

**Bureau of Venereal Diseases:**

State Appropriations .....	20,000.00
Federal Appropriations.....	5,143.68
Contribution from City of Louisville .....	735.78
Sales .....	3,960.09

Total ..... 29,839.55

**Bureau of Medical Practice****Act:**

Fees .....	3,258.00
Minus Fees Returned .....	137.50

Total ..... 3,395.50

**Bureau of Child Hygiene:**

State Appropriations .....	21,298.84
Federal Appropriations ....	34,002.01
Receipts from Tuberculosis Association and Metropolitan Life Insurance Company .....	2,525.51

Total ..... 57,826.36

Total Income of the State Board of Health and Its Bureaus .....

\$261,868.76

**Recapitulation:**

State Appropriations .....	\$147,298.84
Federal Appropriations ....	41,145.69
Department Income .....	19,568.19
County and City Contributions .....	29,318.93
Donations from Private Sources .....	24,537.11

Total Income of the State Board of Health and Its Bureaus .....

\$261,868.76

**EXPENDITURES.****Administrative and General:**

Executive Offices and Clerical:

Salaries .....\$12,342.10



Travelling .....	1,494.14	
Telephone and Telegraph .....	1,424.24	
Printing and Stationery .....	11,208.11	
Postage, Freight and Express .....	2,370.06	
Fees and Services .....	\$ 598.50	
Renewals and Repairs .....	1,122.93	
Library .....	298.38	
Interest, Insurance and Miscellaneous .....	969.94	
Total .....	\$ 31,828.40	
Janitorial Service:		
Salaries .....	3,962.33	
Light, Heat and Power ....	2,214.01	
Laundry .....	247.32	
Total .....	6,423.66	
General:		
Expendable Equipment and Supplies..	4,518.80	
Rent on Mechanical Devices .....	669.04	
Total .....	5,187.84	
Total Administrative and General .....	\$43,439.90	
<b>Bureau of Bacteriology:</b>		
Salaries .....	4,626.67	
Travelling .....	58.19	
Total .....	4,684.86	
Other Expenditures included under 'Administrative and General.'		
<b>Bureau of Vital Statistics:</b>		
Salaries .....	7,494.33	
Travelling .....	100.02	
Total .....	7,594.35	
Other Expenditures included under 'Administrative and General.'		

<b>Bureau of Sanitary Engineering:</b>		
Salaries .....	3,200.00	
Travelling .....	1,071.69	
Total .....	4,271.69	
Other Expenditures included under 'Administrative and General.'		
<b>Bureau of Public Health Education:</b>		
Salaries .....	2,600.00	
Travelling .....	33.92	
Total .....	2,633.92	
Other Expenditures included under 'Administrative and General.'		
<b>Bureau of Food, Drugs and Hotels:</b>		
Salaries .....	7,650.00	
Travelling .....	4,298.04	
Total .....	\$11,948.04	
Other Expenditures included under 'Administrative and General.'		
<b>Bureau of Tuberculosis:</b>		
Salaries .....	6,821.67	
Travelling .....	1,203.19	
Support of Tuberculosis Clinics .....	5,745.45	
Printing and Stationery....	102.35	
Postage, Freight and Express .....	182.48	
Total .....	14,055.14	
<b>Bureau of County Health Work:</b>		
Salaries .....	33,527.30	
Travelling .....	855.38	
Grant to Counties for Health Work Supervised by State Board of Health in 7 Counties.....	16,913.82	
Office Supplies for Counties .....	1,305.81	
Total .....	52,602.31	
<b>Bureau of Visiting Nurses:</b>		
Salaries .....	1,200.00	
Travelling .....	519.43	
Contributed by the State toward the Maintenance of Public Health Nurses working under the Immediate Direction of the		

County and Supervised by the State Board of Health in 32 Counties.....	7,500.00		Total Expenditures, Excluding Capital Outlay .....	\$251,393.00
Total .....		9,219.43	<b>Capital Outlay:</b>	
<b>Bureau of Trachoma:</b>			Furniture and Equipment ..	\$ 954.64
Salaries .....	5,693.00		Permanent Improvements (Buildings) .....	9,521.12
Travelling .....	3,124.11		Total .....	10,475.76
Travelling Clinie Equip- ment and Supplies .....	2,431.76		Total Expenditures of the State Board of Health and Its Bureaus .....	\$261,868.76
Printing and Stationery.....	67.75			
Postage, Freight and Ex- press .....	89.24			
Repairs and Upkeep to Typewriters .....	123.66			
Total .....		11,529.52	<b>Recapitulation:</b>	
<b>Bureau of Venereal Diseases:</b>			Administrative and Gen- eral .....	\$ 43,439.90
Salaries .....	15,296.61		Bureau of Bacteriology....	4,684.86
Travelling .....	999.43		Bureau of Vital Statistics	7,594.35
Grant to Localities for Venereal Diseases. Work Supervised by Board in 9 Localities .....	\$ 13,370.02		Bureau of Sanitary En- gineering .....	4,271.69
Printing and Stationery.....	148.24		Bureau of Public Health Education .....	2,633.92
Postage, Freight and Ex- press .....	11.30		Bureau of Food, Drugs and Hotels .....	11,948.04
Renewals and Repairs.....	13.25		Bureau of Tuberculosis .....	14,055.14
Total .....		\$ 29,839.55	Bureau of County Health Work .....	32,602.31
<b>Bureau of Medical Prac- tice Act:</b>			Bureau of Visiting Nurses	9,219.43
Salaries .....	2,930.00		Bureau of Trachoma .....	11,529.52
Travelling .....	147.80		Bureau of Venereal Dis- eases .....	\$ 29,839.55
Office Expense of Exami- nation .....	42.70		Bureau of Medical Prae- tice Act .....	3,120.50
Total .....		3,120.50	Bureau of Child Hygiene....	56,453.79
<b>Bureau of Child Hygiene:</b>			Total Expenditures, Excluding Capital Outlay .....	\$251,393.00
Salaries (General) .....	30,280.52		Capital Outlay .....	10,475.76
Salaries (Janitorial Serv- ice) .....	19.50		Total Expenditures of the State Board of Health and Its Bureaus .....	\$261,868.76
Travelling .....	5,999.34			
Maternity and Infant Clinics .....	12,767.07			
Institute and Child Health Conferences .....	1,583.74			
Child Health Conference Examinations .....	1,605.37			
Printing and Stationery....	3,166.46			
Postage, Freight and Ex- press .....	472.89			
Telephone and Telegraph....	69.99			
Repairs and Renewals ....	2.14			
Scientific Supplies .....	486.77			
Total .....		56,453.79		

The State Board of Health operates in financial matters almost without any central supervision, after appropriations are made. It is true that the State Inspector, at rather infrequent intervals, audits its accounts and its state appropriations are paid out upon warrants approved by the auditor. But its miscellaneous revenues are checked out of its own bank account, and nothing is currently known of these transactions, officially. This practice, however, is criticised as a part of the unsatisfactory general financial methods in use in the state rather than an account of any irregularities on the part of the Board



itself. That the Board operates economically is due principally to the good management of the present personnel of the Board and its staff. It is very much to the credit of the Board that it has adopted and makes good use of a departmental budget, under which it is fully conversant at all times with its financial condition.

The legislature's practice in making appropriations for the support of this body is unsatisfactory. Apparently an effort has been made to separate the functions of the Board for appropriations purposes. For instance, in 1922, separate appropriations were made for general purposes, venereal disease work, trachoma work, child hygiene work, for payments on the Board's building. In actual practice, the expenditures charged against these appropriations do not always follow the appropriation classification. This is particularly true in the case of the appropriation for child hygiene work, which has been charged with several items of general overhead expense such as a portion of the salary of the state health officer and the full salary of the telephone operator and cashier. The remedy for this procedure, of course, is in the adoption of a state budget, the nature of which is discussed in other reports.

Attention should be drawn to the fairly large items of income from private sources and in particular the International Board. The funds thus received were largely spent in what amounts to demonstration work in six counties, in the hope that the work established there will prove to be the beginning of better health work throughout the state to be undertaken by public funds.

The federal government has also been a contributor to the public health work in Kentucky on somewhat the same basis.

The excess of cost of inspections of restaurants, hotels, dairies and drug stores suggests the desirability of increasing the inspection fees for this service.

The Board depends for results so largely upon publicity and upon direct contact with a great number of people scattered throughout the state that it would normally have a very large expense for postage. The item, however, is very materially reduced by the fact that the secretary of the Board is also connected with several federal health services in an official capacity, and as such, is authorized to use government franked envelopes. He states that the saving to the state from this source amounts to several thousand dollars per year. A fairly large expense for postage is incurred for the return of birth and death certificates from the local registrars.

In general the items in the foregoing tables of income and expenditures are self-explanatory or are fully discussed in the sections describing the various activities of the Board.

#### *The Work of the Board:*

The services of the Board are so varied and many sided that a clear picture of what it is doing requires brief comment in the work of each division.

*Public Health Education:* This phase of public health service is scarcely exceeded in importance by any other activity. It includes the distribution of public health literature and health films, arranging for exhibits, and distribution of posters.

There is conducted annually an Institute of Public Health, in co-operation with the United States Public Health Service, for the instruction of public health officers and nurses. Regular courses are also given in co-operation with the Louisville University in what is known as the School of Public Health, conducted on the premises of the Board of Health. In 1922 there were graduated from this school two health officers, nine public health nurses, and eleven laboratory technicians.

A school for sanitary inspectors was opened on February 1st, 1922. For the course in public health nursing, a fee of \$65.00 is charged for the 17 weeks' course. The fees thus collected go to the support of the school and are in themselves sufficient for the purpose.

*Child Hygiene:* Child welfare has received national attention in recent years. Numerous private organizations have been formed to deal with the particular and general phases of this subject and the Federal Government has given it official recognition through the establishment of the Children's Bureau in the Department of Labor. This activity is not and cannot be kept entirely distinct from other phases of public health work but does require emphasis to be placed upon particular activities. The lines of effort for improving the health conditions of childhood are more or less obvious and rather well standardized throughout the country. In Kentucky the Board of Health summarizes its Child Welfare work as follows:

1. Improvements in birth registration.
2. Supervision and instruction of midwives.
3. Pre-natal clinics.
4. Pre-school health conferences.
5. Health education in schools.

6. Infant Hygiene problems (in connection with women's organizations).

7. Nutritional and hygiene exhibits.

8. Organization of classes for home care of the sick.

9. Co-operation with all child welfare agencies in the distribution of publications.

To record the various activities which have been carried on under these headings would be comparatively easy but rather futile. Most of the child welfare work is in its early stages but may be expected to bear fruit in years to come. The various directions in which the Board is proceeding to accomplish results seem to be well worthy of the appropriations which have been made for their support. Tangible results must be furnished within a few years in the shape of lowered infant morbidity and mortality rates. These and not the record of current activities should be regarded as the ultimate tests of efficiency.

*Sanitary Engineering:* In 1920 and 1921 Kentucky stood first among the states in the morbidity rate for typhoid fever dysentery. In fact, the rate for the latter ailment for Kentucky has been about seven times the average for all the states.

Conditions of this character point unmistakably to the need for clearing up the public sources of disease. It is a physical problem properly belonging in the field of sanitary engineering and calls for the inspection of water supplies, swimming pools, ice manufacture, garbage disposal, etc. These subjects of investigation are assigned to the Bureau of Sanitary Engineering, which consists of a sanitary engineer and such clerical assistance as is assigned to him. The engineer spends a great portion of his time in the field inspecting water works, sewerage disposal plants and making recommendations for improvements and consulting with fiscal authorities and resident engineers and contracting engineers employed by local authorities.

The staff available for sanitary engineering and inspection work is now insufficient to perform, the number and kinds of inspections which are really required. It would appear necessary that most of this work should be done by the State Board and cannot be delegated to any great extent to local health authorities, partly because there are only nine full time boards and still fewer organizations equipped with sanitary engineering service. The engineer should have assistance which would enable him to spend more time at headquarters.

His laboratory facilities, for the analysis of water supplies is also inadequate. Addi-

tional appropriations for this service are recommended. With respect to the regulation of water companies, the statutes are inadequate. There appears to be a need for regulation of water rates, which will enable some of the companies to become profitable enough so that modern improvements may be installed and extensions made without impairing their financial position. A suggestion that the Board of Health should take over the regulation of water companies would not be in order, even in the absence of a public utilities board. It would appear that until such a utilities board is established, an unsatisfactory situation must be put up with. Many of the water companies, owing to long term contracts are facing a difficult financial outlook, and they often cannot make the necessary extensions or the improvements which the State Board of Health deems essential to protect the quality of the water.

*The Licensing Professions:* The State Board of Health is charged with the examination and licensing of all persons engaged in the practice of medicine including the practitioners of any drugless or limited school or system of diagnosis or treatment of human ailments, defects, or deformities. Thus its authority embraces allopaths, homeopaths, osteopaths, chiropractors, and optometrists. Dentists and pharmacists are not included but are licensed by separate boards.

The licensing procedure for allopaths and homeopaths has been much the same since 1893. The law specifically provides that no discrimination shall be made "against any peculiar school or system of medicine." In 1920 a special act relating to the licensing of practitioners of limited schools or systems was enacted. For each of these schools, the State Board of Health is required to appoint three assistant examiners to represent each such group, these examiners to be selected from a list of seven names submitted by a state association and composed of practitioners in question. These examiners conduct the examinations in those subjects peculiar to their own school or system. The Board of Health provides its own examiners and prescribes the examinations in the branches common to the various schools or systems such as, for example, anatomy and physiology. An examination fee of \$25.00 is charged and no annual renewal fee is required of any profession licensed by the board.

The pooling of the licensing procedure for the various medical and related professions is a thoroughly logical step. It must, however, be conducted with impartial justice and in a manner which will command the confi-



dence of the limited schools of medicine. In other states separate boards have been created in nearly every instance for each school because of the distrust which the practitioners of the limited systems have had for the allopathic school and there can be no question but that allopathic physicians and State Boards of Health have been known to discriminate against other schools and that these have been regarded as encroaching upon the field of allopathy. The State Board of Health includes in its membership a homeopathic and osteopathic physician and representatives of these schools appear to be fully satisfied with the present arrangement.

The licensing policy as it affects chiropractors and optometrists has worked out satisfactorily. Both professions for the most part feel that the present law should be strengthened to safeguard their interests and that such success as the present method has met with is due largely to the personality of the State Health Officer and the confidence which he commands.

The present law relating to the licensing of practitioners of limited schools, including optometrists, could well be strengthened. The State Board of Health should take steps to enforce a much closer supervision over the activities of members of these professions. It should revoke their licenses as freely as it does those of allopaths or homeopaths and should inaugurate far more numerous prosecutions against persons practicing without licenses. Under the present administration the allopaths, homeopaths and osteopaths are protected from the unfair competition of quacks and unlicensed practitioners. This cannot be said to be entirely the case with chiropractors and optometrists.

The state health officer is entitled to great credit for enforcing strict supervision over the activities of physicians in the state and protecting the public against malpractices. Kentucky does more for her citizens in this regard than any other state. The work of investigating alleged cases of malpractice is an incidental part of the work of the Board. In order to improve upon the regulation over all classes of professions concerned with the public health a small investigational or inspectional staff should be provided. Two or three inspectors assigned to the work of investigating instances of malpractice would be able to clean up the state. Such a force could give its attention not only to the more important schools of medicine, but could be used to check up on chiropractors and optometrists and on dentists, pharmacists, and embalmers if these should be brought under the Board.

In fact, the excellent results obtained by the State Board of Health in the regulation of practice of various schools of medicine has suggested the possibility of extending the supervision and control of the Board to dentists, pharmacists and embalmers. The desirability of such a change, however, is not altogether clear. There are advantages in centralizing the work of these professional examining bodies at the seat of government at Frankfort. In the Commission's report on consolidation of state offices and agencies, it is proposed that the State Board of Pharmacy, the State Board of Dental Examiners, and the State Board of Embalming be retained with their present functions and that they use as their secretary an officer of the State Employment Commission which will have certain other examining functions. If however, the latter plan should prove to be impractical, the obvious alternative would be to put the control of the examining and licensing of persons to these several professions in the hands of the State Board of Health.

*Vital Statistics:* The Board has under its jurisdiction the collection of birth and death, but not, as in many states, marriage statistics. This is perhaps the chief fact basis for intelligent and scientific public work. Kentucky is within the "registration area," which means that the standards of efficiency in reporting which have been set by the federal government, are met.

There are throughout the state 1,286 local registrars who are paid a fee of 25 cents for each birth and death certificate returned. This fee is a county charge paid upon the certificate of the State Board of Health to the county Treasurer. The work of collecting these statistics calls for a thorough checking by the State Registrar of the certificate furnished by the physicians through the state. Otherwise they are of little value. Much of this checking work is done by correspondence but the director also employs for a part of the year one of the inspectors provided by the Bureau of Child Hygiene, particularly in checking birth certificates.

The auditing, certifying and sending out of some 8,000 vouchers a year for payments due registrars, physicians and midwives, is a task which requires the time of the entire staff for thirty or forty days each year.

The work of the State Board in the whole matter of vital statistics is meeting the full requirements of the federal authorities and at a reasonable cost to the state.

*Tuberculosis:* Sixteen thousand cases of tuberculosis were reported in Kentucky in 1922. There has been a steady decrease in

the death rate from this disease but the problem of its prevention and cure is still a large one which calls for public health education - clinical service and custodial care. Practically all the activities of the Board contribute to its prevention and eradication.

In the matter of hospital treatment, the province which the State Board, as distinguished from the local health agencies, has marked out for itself with reference to this disease, is that of incipient cases, in which there is still hope of effecting a cure. In the later stages of the disease the thing most required is custodial care and can therefore, be left to local agencies.

The hospital phase of tuberculosis work has been conducted chiefly in connection with Hazelwood Sanitarium near Louisville. This institution was operated at a loss on a private basis for a number of years and was then taken over by the state at a rather nominal cost. By charging a fee of about 90 per cent of the patients, of \$15.00 per week, this enterprise has been made more than self-supporting. The Board of Health, however, feels that under this arrangement the state is taking care only of the type of patient who is better able to take care of himself than are most of the persons suffering from the disease.

Another branch of state tuberculosis work is the clinics which are conducted in the several counties in conjunction with the Kentucky Tuberculosis Association. The extent of this work may be gathered from the fact that 1,697 persons were examined at these clinics in 1922.

It is unfortunate that facilities are not available for the free treatment of needy patients. If it is at all possible, steps should be taken to provide the sanitarium with funds which will permit such services. Practically every state in the union and a large number of cities and counties provide institutional services for charity cases.

The educational work of the department is conducted through lectures and talks in most of the counties, bulletins and pamphlets distributed at state, county and school fairs. A particular effort is being made to convince the public school teachers of the importance of teaching health habits and to have every school child medically examined at least once each year. This is accomplished by the establishment of the Health League and the employment of public health nurses.

**Food and Drug Inspection:** The Board of Health co-operates with the Bureau of Chemistry of the United States Department of Agriculture, and assists in the collection and analysis of misbranded foods and drugs.

It inspects hotels and restaurants throughout the state, with a view to securing compliance with the regulation of the state dealing with the purity of food and drugs. The activities of the Board in this department for the last two bienniums are shown in a table of statistics compiled by the Board.

	Civil Service 1921-22	Calendar Years 1920 1921
1. Samples of Foods and Drugs collected .....	1351	650
2. Sanitary Inspection Food and Drug Manufacturing and Handling Plants .....	1894	50
3. Sanitary Inspection of Dairies .....	657	50
4. Sanitary Inspection of Hotels and Restaurants .....	5524	3550
5. Total Inspections .....	8075	4222
6. Certification of Hotels and Restaurants .....	2654	2613
7. Collection of Fees from Hotels and Restaurants .....	\$17,307.01	\$14,802.96
8. Number of Inspector-Months.....	45	48

A good part of this load should be borne by the local health organizations, and is so borne where full time health officers have been established, but this arrangement has been worked out in only nine counties.

The Board complains that the present force of three inspectors is insufficient to carry on reinspection at shorter intervals than six months and asks for an increased inspection force to secure reinspection within a period of ninety days. This request is fully justified.

It is complained also that the laboratory facilities for food inspection work are insufficient. The work requires the services of a trained chemist at the headquarters. The present arrangement, whereby food specimens must be shipped some eighty miles to the laboratories at University is obviously bad administration.

In an earlier section of this report, suggestions are made for better financing this service by an increase in the inspection fees.

**Bacteriological Work:** The work of the State Board in the bacteriological field is, of course of a highly technical nature, the value of which is beyond calculation or appraisal. It is due the director of the bureau which has this work in charge that she is showing not only an unusual devotion to her professional duties, but also a particular desire to practice economy.

The principal function of the bureau relates to the preparation and free distribution of influenza, autogenous, typhoid, paratyphoid, whooping cough and trench mouth vaccines; acting as a distributing station for



various sera, antitoxin and vaccines; supplying free Pasteur treatment for the prevention of Rabies; conducting a class for laboratory technicians; undertaking laboratory research in connection with epidemics; giving public health lectures.

Municipal water plants are supplied with containers, analyses made every two weeks and reports presented to the sanitary engineer for interpretation.

As an example of the laboratory work which bears directly on the prevention and treatment of specific diseases, it may be stated that, in 1921, 8,222 units of antitoxin and vaccines were distributed. Of this number, 4,487 were packages of diphtheria antitoxine, which cost the tax payers \$7,534.70. It is stated that if these had been bought in the open market, their cost to the users would have been \$26,226.

Particularly favorable arrangements have been made with Squibbs & Sons, manufacturing chemists, for the distribution, at an especially low rate, of vaccines which the Board does not manufacture. The Board under this arrangement, however, acts only as a distributor and does not handle any funds.

*Eradication of Trachoma:* Ever since the return of the soldiers from the Civil War the disease of trachoma has been prevalent in the mountains of Kentucky. This disease is highly infectious and is a prolific cause of blindness, but is preventable and curable. A number of years ago the United States Health Service, recognizing the serious condition in Kentucky, established three trachoma hospitals. In 1920 an appropriation of \$15,700.00 was made by the state for the particular purpose of combating this disease. On the strength of this appropriation a director of trachoma work was appointed, and later two public health nurses were assigned to it.

A traveling trachoma clinic was inaugurated, equipped with a wagon and motorcycle, which goes to remote places in the mountains during the summer months. This traveling clinic devotes itself largely to the inspection of school children, but does not confine itself to the treatment of the eyes. It also undertakes to discover cases of defective teeth, infections of the tonsils and adenoids and undertakes to locate cases of tuberculosis, hookworm, mal-nutrition, anemia and communicable diseases. This work is both operative and educational. The Board reports that in the course of a four-day clinic, as many as 150 operations have been performed upon eyes, tonsils and adenoids. These are usually conducted at the school houses. Approxi-

mately 1,000 cases of trachoma are operated upon and treated each year. No charge for services is rendered, and medicines are furnished free. The United States Public Health Service estimates there are 50,000 cases of trachoma in Kentucky and that fully 90 per cent of these have to be searched for in order to be located. In 1922, owing to a decrease in the appropriation for this particular work, the service of one nurse had to be dispensed with. The Board requests another unit in order to combat this disease more effectively. It also suggests that a clerk and an optometrist be added to each unit.

*Control and Suppression of Venereal Diseases:* Some notion of the magnitude and importance of the social problem dealt with by this branch of public health service may be obtained from the fact that there were reported to the Board of Health in 1922, 31,042 cases of these diseases. Of the inmates at the State Reformatory and the State Penitentiary, forty-seven per cent are found to be infected. At the Reform School for Girls ninety-eight per cent of the inmates suffer from one or the other of these diseases in an acute form.

The State Board of Health is attacking this problem by means of educational measures and by means of clinics, of which there are twenty-two, distributed throughout the state. The Board co-operates with hospitals and public health stations, apprehends persons affected and puts them under quarantine.

The effectiveness of this service is attested to by the fact that Kentucky has qualified for participation in the federal funds created by the Chamberlain-Kahn Act of 1918. Such participation is conditional upon the state agreeing to meet federal standards concerning reporting of cases, investigation of the sources of infection, control of infected persons, inauguration and enforcement of measures of suppression, dissemination of educational publications, etc. The state must also co-operate with a representative of the U. S. Public Health Service, to be paid principally out of the state funds. The federal service also dictates the distribution of state funds for venereal diseases work to the extent that it requires 50 per cent to be devoted to the treatment of diseased persons in clinics, hospitals, etc., 20 per cent to educational measures, 20 per cent to repressive measures, and 10 per cent to general administration. This division, however, is subject to some modification, after conference.

*Extension of County Health Organization and Works:* The Bureau of County Health work might be termed a planning and missionary division of the Department of Public Health with respect to local health administration. In keeping with the aggressive policies which have characterized the public health movement, the State Board of Health has conceived it to be its duty to encourage counties, one after another, to come in under the law which provides state aid for those counties which will comply with the conditions imposed for participation in such aid. (This relationship between the State Board of Health and the counties is discussed in some detail in the section on County health administration of the report on County Government.)

Once a county has accepted state aid there remains the problem of setting up the department and supervising or controlling its activities. The State Board of Health advises concerning the appointment of a local Director, the presumption being that its advice will usually control.

The Director is then started out on his job, with detailed instructions concerning the making of a sanitary survey of each rural community in the county, the conduct of a Public Health publicity campaign, including specific directions for combating specific diseases. He is instructed to make examinations of the school children, to provide typhoid prophylactic inoculations, to secure the co-operation of physicians in reporting communicable diseases, and to enforce the quarantine law with reference to such diseases. He is required to make weekly and quarterly reports, not only concerning health activities as such, but concerning expenditures. In the case of the six counties which receive additional aid from the International Health Board, the quarterly reports of the Director are forwarded to and approved by that Board.

The results achieved by the local health authorities, while they are primarily matters of local achievement, are properly subjects for treatment in an account of the activities of the State Board.

*Supervision of Public Health Nursing:* By an Act of 1918 (Chap. 51) provision was made for the support by the state subject to local co-operation, of a visiting nurse in the several counties. The General Assembly in 1922 appropriated \$7,500 per year for their work. Each county which co-operates, receives twenty-five dollars a month from the State fund. The supervision of these nurses is entrusted to the State Board of Health.

Their duties, in actual practice, have been thus described:

"Included in the duties of this class of public health workers is a certain amount of visiting nurse work and by this is meant visiting homes where any kind of illness occurs and undertakes to train the family along the lines of 'home-care of the sick.' Frequently these nurses conduct classes in 'home-care of the sick,' and particular emphasis is placed upon the training of young, single, and married women. From the standpoint of her public health duties, the nurse co-operates with the County Health Officer following up cases of communicable diseases and giving instructions to the family for their prevention, co-operating with the County Health Officer or local physicians in conducting pre-natal and child hygiene conferences, pre-natal conferences having the purpose of training expectant mothers as to their hygiene, diet, habits, and preparation for labor; child health conferences having the purpose of training mothers in the care of the infant and child of pre-school age, looking to its proper feeding, habits and hygiene. Further, the nurse includes in her routine of work the visiting of schools, inspecting (not examination of) school children for apparent minor defects, giving drills for the purpose of teaching health habits and talks to the children on personal, school and community hygiene. The nurse, also, where there is visible evidence of various infectious diseases among school children, such as trachoma, arranges for clinics and secures aid for bureau heads from the State Board of Health in doing the necessary technical work and in which connection, much publicity and personal visitation to various sections of the county is necessary. The nurse at all times educates her people as to the needs for more adequate local health organization to carry on intensively public health work and quite frequently the work of the public health nurse paves the way for and, in instances, has brought about the establishment of full-time health departments."

*The Organization as a Whole:* The directors of several bureaus and their employees should not be considered as operating in airtight compartments. As a matter of fact, there is a great deal of interchange of employees from one bureau to another, from time to time, as the load of work changes. Furthermore, it is the practice of the Department to have the various directors acquaint themselves as much as possible with what each of their associates is doing, so that when one is called out of town or otherwise incapacitated,



tated, there is always an understudy to fall into the vacancy.

In many ways the Department has established and maintained personnel methods and conditions which set a high standard. There seems to be a complete absence of political influence in the selection of employes. The Chief Clerk maintains the file of applications and, when vacancies occur in the staff, the various bureau heads go over these and make appointments from them, if promotions are not feasible. In contrast to the rather lax discipline which prevails in many of the departments at Frankfort, a close check is kept upon the time put in by the employes of the Board by the use of a time-clock. Late comers are required to present excuses, and if lateness is habitual, deductions of pay are resorted to.

Some comment with reference to salaries of directors and other employes seems to be called for. In view of the technical requirements of a large portion of the service, the salaries paid are moderate. It is said nearly all of the bureau heads have been offered salaries in other states considerably in excess of what they are now receiving. Compensation of clerical service is practically on an equality with, or possibly a little lower than, the amounts paid for similar services at Frankfort, but the hours of work are longer in actual practice, and as stated above, the discipline is undoubtedly better and the output larger.

Considerable difficulty is encountered in obtaining and holding nurses, because of the unsatisfactory living conditions in the field, and frequent offers of positions in more attractive localities. This fact accounts, to a large degree, for the extensive use of part-time nurses. The Board, however, expresses the hope that this service will gradually be placed upon a more staple and permanent basis.

#### CONCLUSIONS AND RECOMMENDATIONS:

The State Board of Health is one of the branches of the state government which is most deserving of commendation. It is evident on every hand that the controlling motive in this department is public service. Political considerations do not seem to have entered in any degree into its administration. When a condition of this kind prevails in any department that is exercising essential functions, suggestions for improving its functions come with much better grace than would be the case if less satisfactory ideals prevailed. A public health department economically, non-politically, and intelligently directed

and conducted may be with considerable justification, rated as an investment rather than an expense. Irving Fisher, an economist of established reputation, has estimated that the average human life in this country has an economic value to the nation of approximately \$5,000. A logical deduction from this statement would be that any measures or organization which conserve large numbers of human lives is engaged in adding to the potential wealth of the nation and of the state of which these lives are a part. In Kentucky, the death rate, for whites, has been cut in two during the present generation. This result is traceable more directly to public health measures than to any other factor. It appears, however, that proper recognition of the importance of public health services has not always been given by the General Assembly. Per capita expenditures of the state for public health purposes are, in general, smaller than most other states. In states which have a larger number of good sized cities it has been possible to throw a part of the expense of public health services upon the local communities. In Kentucky, however, it is essential that the state assume a large part of this burden. The large number of isolated districts in the state results in a lower standard of sanitation which makes it necessary to devote more funds to public health education and increases the difficulty of coping with contagious diseases. Larger expenditures for public health work are therefore thoroughly desirable. These expenditures have a direct bearing on the prosperity of the people of the state. The annual loss caused by typhoid fever alone amounts to many thousands of dollars.

Among the outstanding activities of the department are the travelling clinics. This service should be extended by placing several clinics on the field throughout the year. An adequate staff should be provided for each in order that services may be furnished not only in the treatment of trachoma and tuberculosis but that more educational work in child welfare and sanitation may be undertaken. In the study on the State Board of Charities and Corrections it has been suggested that psychiatrists be added to the travelling clinics by arrangement with the Board of Charities and Corrections.

A great deal more remains to be done in the public health field in the state, the finances of the Commonwealth permitting. A far more aggressive control of typhoid fever should be undertaken. The services of a trained epidemiologist should be made available in this connection. This would relieve the State Health Officer of time which he

could better devote to general administrative affairs. In the course of this study, several specific recommendations have been made that may be summarized as follows:

1. That the statutes be amended so as to permit the fees for the inspection of hotels, restaurants, drug stores, and dairies, to be increased in order that the necessary re-inspections may be made without increasing the burden of this activity on the State at large and shall be practically self supporting.

2. That increased appropriations be made for laboratory services, particularly in connection with the inspection of water supplies. It is estimated that \$8,500.00 a year is essential to supplement the present technician service and to provide a trained chemist and \$6,500.00 for additional laboratory and chemical equipment.

LETTERS FROM SANITARIAN TO DR.  
IRVIN ABELL, CHAIRMAN OF THE  
COMMITTEE ON LEGISLATION OF  
THE JEFFERSON COUNTY MEDICAL  
SOCIETY, IN REPLY TO A  
LETTER FROM DR. L. S. MURTRY,  
PRESIDENT OF  
THE STATE BOARD OF  
HEALTH.

THE SECRETARY OF THE INTERIOR

Washington, D. C., Feb. 1, 1924

Dr. Irvin Abell,  
Chairman, Committee on Legislation,  
Francis Building,  
Louisville, Ky.,

My Dear Doctor:

I have been advised that there is under consideration in your State Legislature a bill which, it is feared, will involve, if passed, the State Health Office of Kentucky in partisan politics.

Kentucky has stood in the first rank among States for many years as having an efficient forward-looking policy in relation to public health.

Kentucky's reputation as progressive and advanced in this direction has been due largely to the Doctors McCormack—father and son—and I know that medical men who have national vision on this important question would regret to see the machinery of your State Board of Health built up on any basis other than those looking to training and qualifications for the prevention of disease.

Political party division is both necessary and wholesome to government administration but it has no place in the aims or functioning and methods adopted for the protection of human life.

I know that many of us who are interested in public health in its broadest aspects would regret to see appointments to its service dictated from partisan motives.

I am

Very respectfully

Hubert Work,

Secretary of The Interior.

AMERICAN MEDICAL ASSOCIATION

Office of the President, Standard University,  
California

January 7, 1924

Dr. Irvine Abell, Chairman,  
Committee on Legislation,  
State Board of Health,  
Francis Building,  
Louisville, Ky.

Dear Mr. Abell:

Dr. Arthur T. McCormack, of the State Board of Health of Kentucky, has been an outstanding figure in the development of public health service in the United States. He has shown an enthusiasm and practical knowledge of affairs that have been of great importance not only for the State of Kentucky, but in influencing members of the profession and the public in all parts of the country. I hope that it will be possible for him to receive all of the financial support which is necessary in order to permit of the constant development and expansion of his health work. With forty-eight different states all in a position to try experiments we are watching the results in Kentucky with the greatest of interest, so that they can be imitated elsewhere.

Very sincerely yours,

(Signed) Ray Lyman Wilbur, M. D.,  
President.

Dr. William Allen Pusey,  
1311 Chicago Building,  
7 West Madison Street, Chicago,  
January 8th, 1924.

Dr. Irvin Abell, Chairman on Legislation,  
Kentucky State Medical Society,  
Louisville, Kentucky,

My dear Dr. Abell:

I have learned that there is a movement on foot in Kentucky to change essentially



the laws under which the State Board of Health is now operating. I am a Kentuckian. I have kept in touch with the activities of the State Board of Health for thirty years, and I can claim to have an actual interest in Kentucky at the present time. I am, therefore, viewing with anxiety this movement, which amounts to an attack, I believe, upon the present unusually efficient State Board of Health that administers the sanitary laws of Kentucky. Under the leadership of Dr. McCormack, Sr., Kentucky has long ago developed a State Board of Health in advance of the times. It has kept in front of progress in public health matters continuously. Dr. Arthur McCormack has maintained the traditions established in the department. He has a wide reputation as a public health official of the highest efficiency, both as an administrator and as a scientific sanitarian. I happen to know directly from General Gorgas of the high opinion in this respect which that master in the field of sanitation held for Dr. McCormack.

I can think of no step backward that would be fraught with more danger to the welfare of the people of Kentucky than to have the laws of the State Board of Health loosened so that there would be a chance for political appointees to get into that organization. Permanency of tenure of office for the staff of the Board has developed in Kentucky a personnel in the State Board of Health which it would be a crime against the welfare of the State to disturb by a change in policy.

If there is any service that I can perform in connection with this matter, please command me.

Sincerely yours,

(Signed) W. A. Pusey,

President-Elect, American Medical Association.

DR. CHARLES H. MAYO.

Rochester, Minn.

January Seventh, Nineteen Twenty-four.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Ky.,

Dear Doctor Abell:

I have just heard that an effort is being made to change the plans of the Kentucky State Board of Health and I think this is most unfortunate. The Board of Health is now out of politics and is working most efficiently. Those of us who go about the Country taking on the betterment of the Nation's health refer to the Public health laws

of the State of Kentucky as being the best of any in the United States. I hope these laws will not be tampered with or any change made in them, at least until they are surpassed by laws in some other State.

Very truly yours,  
(Signed) C. H. Mayo

FRANK BILLINGS

1550 North State Parkway,  
Chicago, Ill.

January 5, 1924

Dr. Irvin Abell,  
Francis Building,  
Louisville, Ky.,  
Dear Dr. Abell:

I have learned with regret that at this year's session of the General Assembly of Kentucky, an attempt will be made to change the existing splendid principles and policies which underly the administration of the Department of Health of the State of Kentucky; furthermore, that the attempt will be made by a group of politicians to displace Dr. Arthur T. McCormack who has so long served the State of Kentucky as its chief state health officer.

Inasmuch as it has been my privilege to know Dr. Arthur T. McCormack very intimately for many years, I am taking the liberty to write to you and to voice my disapproval, not only of the contemplated change in the splendid principles and policies which underly your public health activities, but also to express my regret and protest against the displacement of Dr. McCormack as the State Health Officer of Kentucky. Dr. McCormack is nationally known and recognized as a qualified sanitarian and health officer; that he is a man of splendid character and high-minded, unselfish and honest as an administrator of the public health activities of the state. In my opinion it would be disastrous to the welfare of the people of Kentucky to have its present splendid public health work interfered with in any way, and especially by the displacement of Dr. McCormack from the position of State Health Officer.

Please me with a letter in any way you see fit in the campaign which I hope the medical profession of Kentucky will institute and actively engage in for the protection of the people of the State of Kentucky.

Very truly yours,  
(Signed) Frank Billings,

Dean of the Faculty of Rush Medical College, and Professor of Medicine in the University of Chicago.

## AMERICAN CHILD HEALTH ASSOCIATION

370 Seventh Avenue, New York.,

January 21, 1924.

Dr. Irvin Abell,  
Chairman of the Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

My dear Doctor Abell:

It is my understanding that certain persons propose to introduce before the General Assembly of Kentucky a bill attempting to put the State Health Department directly into politics by changing the plan under which tenure of office of Kentucky health officials is assured providing they conduct their affairs efficiently and economically.

Dr. McCormack, the present health officer of Kentucky, is regarded as one of the able health officials of the country, and the work he has accomplished in his State commands respect of many persons who are qualified to judge its merits.

Aside from the personnel consideration involved, change in the tenure of office of officials who hold their positions as long as they administer them efficiently is wrong in principle and is to be condemned.

I hope you will be successful in defeating this propose legislation.

Very sincerely yours,

(Signed) Courtney Dinwiddie,  
General Executive.

TREASURY DEPARTMENT  
BUREAU OF PUBLIC HEALTH

Washington

January 5, 1924.

Dr. L. S. McMurtry,  
President, State Board of Health,  
Louisville, Kentucky.

My dear Dr. McMurtry:

I beg leave to acknowledge receipt of your letter of January 2nd informing me that an attempt is to be made to put your state health department into partisan politics and thus destroy the splendid co-operation which has existed for the past fifty years between the medical profession and all of your people interested in public health and which will change the plan under which the tenure of office of your health officials has been assured provided they conduct their affairs efficiently and economically.

I think the history of state and other health organizations both here and abroad has shown that the injection of partisan politics into public health is disruptive in its

tendency and in fact incompatible with the efficient and economical administration of any public health department, in addition to which such action discourages the best type of man from entering into public health work.

I have known Dr. Arthur T. McCormack since we were at the University of Virginia together. He has always been a man of force and a natural leader of men. He is generally looked upon throughout this country as one of the leaders in the great public health movement which has done so much throughout the United States during the past ten or fifteen years and the Public Health Service has had hearty co-operation from him in all of its efforts to assist the state and local health departments. I should regret any movement which would result in the people of your state being deprived of the experience and ability of Dr. McCormack.

Sincerely yours,

(Signed) H. S. Cumming  
Surgeon General.

Washington, D. C.  
January 19, 1924.

Doctor L. S. McMurtry, President,  
State Board of Health,  
Sixth and Main Sts.,  
Louisville, Ky.

My dear Doctor McMurtry:

I was very sorry to learn from your letter that the administration of your present State Health Officer, Doctor A. T. McCormack, would be attacked in the session of the General Assembly of Kentucky.

I have known Doctor McCormack for a number of years, having served with him several times in the House of Delegates of the American Medical Association, and have been impressed with his readiness in discussing the various subjects brought up in the deliberations of that body.

Of course, it would be needless for me to make the statement that Doctor McCormack is recognized as one of our most energetic and ardent advocates of the public health advancement. Certainly your State Health Officer, by reason of his public addresses in various states before the American Public Health Association, and as President of the Conference of Territory and State Health Officers, has been a conspicuous figure in American public health work.

Very sincerely,

(Signed) E. R. Stitt,  
Surgeon General, U. S. Navy.



## THE COMMONWEALTH OF MASSACHUSETTS

Department of Public Health  
Boston

January 10, 1924.

Dr. Irvin Abell, Chairman,  
Committee on Legislation,  
Louisville, Kentucky.

Dear Dr. Abell:—

I am in receipt of a letter from Dr. McMurtry enclosing a most interesting multi-graphed copy of a report on the finances and general business management of the State Board of Health of Kentucky as submitted to the Governor by the State Inspector, Mr. James.

I also learn with astonishment that there is to be a bill introduced this year into the Legislature of Kentucky designed to upset the present State Board of Health, and furthermore, that this bill is aimed directly at the present executive of the Board, Dr. Arthur McCormack. I presume it is impossible for anyone outside of Kentucky to understand just what is the attitude in reference to the State Board of Health, although it has, of course, been known to many of us that there is and has been for many years a certain amount of organized opposition to the Board and its policies.

Probably the best statement that can be made as to Dr. McCormack's standing and ability among the other state health officers is the fact of his election to the office of President of the Conference of State and Provincial Health Authorities. This is an old organization and people are not elected to the presidency of it until their work has been of character and standing sufficient to impress their associates throughout the country.

Entirely aside from that, Dr. McCormack has for many years been regarded as one of the ablest of the state health administrators in this country, I think by all well qualified to judge the progress of public health work.

It is not at all surprising to me to read the report of your financial examiner stating that he has so carefully planned his work that he has always maintained the finances of the Board within the appropriation, but on the other hand he made every cent tell towards public health advancement.

Dr. McCormack's energy in enlisting the co-operation of such organizations as the International Health Board, the Children's Bureau and the United States Public Health Service on a co-operative basis has been a matter of common knowledge among state health executives for several years and we have all rather envied his unusual success.

The work carried out in reference to trachoma prevention in the State of Kentucky is ample justification in my judgement for practically all the finances of the State Board of Health for a number of years past on this one item alone. The progress of full-time county health organization has also been exceedingly carefully thought out and pushed forward with a statesmanlike manner.

I cannot but feel that when the work of the board is clearly put before the Legislature, any such proposed legislation as that indicated by Dr. McMurtry's letter will very quickly be disposed of by Legislature in a manner that will place the unmistakeable approval of the supreme legislative body upon the work of your State Board of Health.

Sincerely yours,

(Signed) Eugene R. Kelly,  
Commissioner of Public Health.

---

ARKANSAS STATE BOARD OF HEALTH

Little Rock

January 17, 1924.

Dr. Irvin Abell, Chairman,  
Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

My dear Dr. Abell:—

The information has recently come to me that there are political influences operating to dethrone Dr. Arthur T. McCormack, your able and efficient State Health Officer.

I recognize that in politics the spoils belong to the victor, and I am further conscious of the fact that we have not as yet been able to remove from the powerful influence of politics the health departments and the executive officers who direct them. We as full time health officers throughout the country are not averse to a wholesome political fight occasionally, as that will only stimulate us to do our best at all times, but what we do abhor and sincerely hope will not occur in Kentucky is an underhanded, unfair political attack upon Dr. McCormack.

To me, and I believe I speak the sentiment of every health officer in the United States who has served for any length of time, Dr. Arthur T. McCormack stands out not only as one of the foremost health officers in the world today, but as one of the outstanding, courageous, constructive, energetic statesmen of this country. There has scarcely been a forward movement of any consequence looking to the welfare of the citizens of this country during the past fifteen years that Arthur T. McCormack has not been definite-

ly identified with, and in most instances in the vanguard as one of the principal leaders.

I feel, as I am sure all of Dr. McCormack's friends in a similar line of endeavor, that if Dr. McCormack should be removed as the Executive Officer of the Kentucky State Board of Health, not only Kentucky but the entire country would suffer a distinct loss.

My only reason for writing this letter to you is to make urgent request that you give Dr. McCormack a fair and impartial hearing and allow nothing to be done or said derogatory to him or his work which might ever be truthfully charged as unfair or unjust.

Respectfully,

(Signed) D. W. Garrison, M. D.,  
State Health Officer.

---

MONTANA STATE HEALTH DEPARTMENT

February 11, 1924.

Mr. W. M. Boling,  
Representative 32nd District,  
House of Representatives,  
Frankfort, Kentucky.

Dear Sir:—

Replying to your letter of February 6 beg to advise that the total appropriation of the State Board of Health made at the last legislature was \$43,686.92 per year for two years. In addition to this the State Board of Health gets considerable aid from the federal government as well as from the Rockefeller Foundation. Of course, this does not include the money spent by the various counties and cities in maintaining county and city health departments.

The State Board of Health consists of five members appointed by the Governor from a list of Doctors furnished by the Montana Medical Association. Each year this association furnishes a list of five men from which the Governor picks one each year to serve for a period of five years. The Board of Health so constituted chooses its own secretary, the secretary not being a member of the board. The salary of the secretary is five thousand dollars per year.

I have watched for some years the development of public health work in Kentucky and desire at this time to congratulate the people of Kentucky on their excellent organization and results which have been accomplished in recent years. Your health officer, Dr. Arthur McCormack, is a prominent national figure in health work and I believe that all the state health officers feel as I do that

they have received a great deal of aid from his advice at our conferences.

Yours very truly,

(Signed) W. F. Cogswell, M. D.,  
Secretary.

---

NORTH CAROLINA STATE BOARD OF HEALTH

Raleigh, N. C.

January 10, 1924.

Dr. Irvin Abell,  
Chairman, Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

My dear Dr. Abell:

I have learned recently with considerable regret that there is a movement started by some influential members of the General Assembly of Kentucky to enact legislation designed to place the health work of Kentucky upon a political basis and largely for the purpose of displacing from his present position the State Health Officer, Dr. Arthur T. McCormack.

I trust that my writing in this matter may not be construed as either presumptuous or for personal reasons or wholly on account of my long friendship for Dr. McCormack.

The proposed legislation is bad in my judgment both in principle and purpose. It is bad in principle for the reason that it attempts to substitute for government in public health matters by a well qualified, highly trained, commission of a stable organization, health government of a political character.

There is general recognition throughout the country by those qualified to hold opinions that government involving special technical considerations, as in the matter of education and health particular, should be directed by commissions rather than political appointment. Boards of Health selected from influential members of the medical profession and so selected that the terms of office of the different members of the Board do not expire in the same year, so that there is stability of organization, are far more likely to adopt wise policies formulated in the light of the best professional opinion and interests, and to provide on account of their continuous organization for a continuity of policy, for a degree of foresight in action, that does not appear in the formulation of policies and their execution by political appointees.

These States that have provided for their health department under the direction of Boards of Health, providing as above suggested for continuity of policy, have far out-



stripped in health work those States whose health commissioner has been appointed by the Governor and whose office is as a rule uncertain and of relatively short tenure.

There have been one or two exceptions in the matter, as in the States of Massachusetts and New York, but those exceptions are so few as to prove the rule, there being in the two States mentioned peculiar explanations for the choice by the Governor of the Health Commissioner.

Without any risk, I hazard the opinion that no authoritative organization in this country, such as the American Medical Association, the American Public Health Association, the International Health Board, the United States Public Health Service, and others, would endorse the principle involved in the proposed legislation to-wit, the replacement of a commission form of health government by a political type. Of course your present Governor may choose a man of high character, well trained and peculiarly well qualified for the office, but legislation that throws the appointment of a commissioner into the hands of the Governor does not provide, and cannot provide, that the successors of the present administration would continue a wise precedent that he might establish.

This legislation should be opposed vigorously by all those who are sincerely interested in further development of public health work, and it is the principle involved in the legislation, rather than the personal interest of Dr. McCormack, that should be the determining factor with Members of the General Assembly in adopting the best thing for the great State of Kentucky.

Of course I am personally concerned in anything that touches the personal or professional interest of Dr. McCormack. I have known him for many years. He is known throughout our country as one of its leading health officers, a man whose opinions on health problems are sought and are given great weight in national health councils.

The health authorities of the country would regard it as a serious loss to their ranks if anything occurred that displaced one of their leading consultants and workers, our friend Dr. McCormack.

I sincerely hope that the legislation, which I understand will be introduced and to which this letter refers, will meet a speedy and decisive rejection by your General Assembly.

Very respectfully,

(Signed) W. S. Rankin, M. D.

State Health Officer of North Carolina.

STATE BOARD OF HEALTH OF WISCONSIN,

State Capitol, Madison, Jan. 8, 1924.

Dr. Irvin Abell,  
Louisville, Ky.

Dear Doctor:

My attention has been called to the possibility of a Bill being introduced in the Kentucky legislature to reorganize the Health Department, possibly doing away with the State Board of Health and substituting therefor a Health Commissioner selected in some other manner than by the State Board of Health.

Having been interested in public health work and public health organizations for over twenty years, I cannot refrain from writing you my opinion concerning the health work in Kentucky and its health organizations. I want to say that for a great number of years I have looked to Kentucky for a constructive, practical, progressive legislation along health lines at all times based on an economic program. The work done in Kentucky for these many years has been of great value to many of the states newer in the development of public health programs and has formed a basis for sound public health organizations in many states.

Some time ago, the National Conference of State and Provincial Health Authorities assigned a committee to study the health organizations of all the states and to report as their judgment directed the most efficient and sound system of health regulation. This report was to the effect that a state board of health composed of medical men with positions honorary in type and terms of office expiring at different intervals was the best type of organization both from economical and efficiency standpoints. Such board is held responsible for the selection of the health officer and his efficiency. This type of organization Kentucky now has and has had for many years.

A study of the public health work in those states whose health organizations consisted of a Board of Health and a State Health Officer under the jurisdiction of such Board with states having a Health Commissioner appointed by the Governor and possibly confirmed by the Senate, shows that the states having Boards of Health are far in advance generally speaking to those states having a Health Commissioner, both from an efficiency and economical standpoint. I hope that Kentucky will continue to retain its Board of Health organization and thereby remain one of the leading states in the public health field of the United States.

I cannot refrain also from expressing my opinion toward your State Health Officer Dr. A. T. McCormack. I have known him and his work for a great many years. I do not believe there is any one in the United States who has a better knowledge of practical public health work than Dr. McCormack. He has become a nationally known figure and is considered as a leader in his line in our national meetings such as the American Public Health Association, the National Tuberculosis Association, the National Conference of Social Workers, and the National Conference of State and Provincial Health Authorities. He has been a most valuable member. His opinions have been sought by all of these organizations and most frequently his suggestions and recommendations have been taken as a sound basis from which to proceed. I trust that Kentucky is proud of the standing of its State Health Officer, Dr. McCormack, and if your state appreciates his services, as we outside of the State of Kentucky appreciate the work he is doing, no measure will receive favorable consideration that might possibly eliminate such a valuable public health man from the service of your state, I trust you will pardon me as he directed toward public health work is to place a public health official in the political limelight, and make a football out of a Department that renders most valuable service to mankind.

If I have overstepped the bounds of propriety in writing to you, being a non-resident of your state, I trust you will pardon me as we need states like Kentucky, with a State Health Officer like Dr. McCormack to open new avenues on welfare problems and lead us into constructive, economic and efficient plans of procedure.

Very sincerely yours,

(Signed) C. A. Harper,

State Health Officer.

STATE OF NEW MEXICO. BUREAU OF PUBLIC HEALTH

Sante Fe, N. M.

January 5, 1924.

Dr Irvin Abell,  
Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

Dear Doctor

Undoubtedly the health officers of the country will learn with surprise and regret that a movement is on foot in your State to bring the State Board of Health into politics. Pro-

gressive legislation in all parts of the country has been in the opposite direction for many years. We are constantly seeing health departments taken out of politics and placed on an efficient basis. It is scarcely necessary to point out that matters of a highly technical nature, such as public health administration, will not receive the attention that they deserve, if they must depend upon the appointment of persons who are selected for their political, rather than for their technical qualifications. It has been the experience everywhere that health work has been maintained on a low standard when politics governed the organization. The result is that the people do not receive the protection that they have a right to expect from the State, although the same amount of money may be spent as would be needed for a thoroughly efficient agency.

We fear that any such move in your State would mean the loss of the services of Dr. A. T. McCormack, who is a man of nationwide reputation, and who has been honored repeatedly by the health officers of the entire country. Dr. McCormack is recognized as one of the progressive leaders in the modern public health movement, and his removal would be deplored by every man of standing in the profession. We trust that Kentucky will not take this backward step, after having stood for years as an inspiration to the rest of the country in the field of public health.

Cordially,

(Signed) G. S. Luckett,

Director of Public Health.

OREGON STATE BOARD OF HEALTH

301 Fitzpatrick Building, Corner Ninth and Oak Streets,

Portland, Oregon,

January 23rd, 1924,

Dr. L. S. McMurtry, President,  
State Board of Health,  
Louisville, Kentucky.

Dear Doctor McMurtry:

It has been my good fortune to enjoy the friendship and counsel of your State Health Officer, Dr. A. T. McCormack. The State of Oregon, like many other states, has found it very profitable to follow many of the excellent practices that have been instituted in your State for the protection of the health of your people.

It is my opinion that Dr. McCormack is one of the best informed men in public health



in this country. His counsel to the Conference of Health Authorities has been extremely valuable, and Dr. A. T. McCormack has done much to raise the standard of preventive medicine in this country.

It would indeed be a loss to the State of Kentucky should anything occur to destroy the good work that has been carried on so well in the past years. It is my hope that the situation will soon clear itself, and that your State will continue to lead in health matters in this country.

The little that I have accomplished in Oregon has been due, to a great extent, to the wise counsel of your present health officer.

It is my sincerest hope that progressive health work will continue to grow in the blue grass country.

Yours very sincerely,

Signed) Frederick D. Stricker, M. D.  
State Health Officer.

---

MICHIGAN DEPARTMENT OF HEALTH  
Lansing, Michigan

January 10, 1924.

Dr. Irvin Abell,  
Francis Bldg.,  
Louisville, Ky.

My dear Doctor:

It has been brought to my attention that there is liable to be legislation introduced at the present session of your General Assembly which, if passed, would place Dr. Arthur McCormack's official position in jeopardy.

If anything should happen which would terminate Dr. McCormack's public health activities, it would be a great blow to public health activities all over this broad land.

Dr. McCormack's ability along public health lines is highly esteemed by State Health Executives of this country, and he is called upon for advice and counsel many times. If anything should happen which would lose for us his services he would be greatly missed by every State Executive, and it would be a great blow to public health work generally.

I sincerely hope that nothing will happen in your great State of Kentucky which will lose to you the services of so eminent a man.

Yours sincerely,

(Signed) R. M. Olin, M. D.,  
Commissioner of Health.

MISSISSIPPI STATE BOARD OF HEALTH

Jackson, Mississippi,  
February 2, 1924.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Ky.

Dear Dr. Abell:

I regret very much having heard of an attempt in Kentucky to disrupt the splendid organization of the State Health Department through the activities of certain persons in the state through legislative enactments. I have known Doctor McCormack for a number of years and I esteem him very highly as a man and as a public health official. He has made many sacrifices for the promotion of health work in Kentucky, and I sincerely hope that the effort which is being put forth to embarrass the health department will not prove successful.

With kind personal regards, I am,

Yours sincerely,

(Signed) W. S. Leathers, M. D.,  
Executive Officer.

---

STATE BOARD OF HEALTH OF MISSOURI  
City of Jefferson

January 15, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

Dear Doctor:

In your capacity as Chairman of the Committee on Legislation, we feel that you will be interested to know of the admiration that the State Board of Health of Missouri holds for the excellent public health accomplishments in your State.

We have modeled many of our health activities after Kentucky, particularly the prevention of blindness and the immunization clinics. In considering the remarkable advancement made in Kentucky in public health tribute must be paid to the personnel of the State Board of Health and to your State Health Officer.

We hold Dr. McCormack in such high regard that we invited him, out of all State Health Officers, to address our last State Convention of county and local health officers. His speech was received with enthusiasm, and was the best of all on the program. During the later sessions he was called on again and again to relate his experiences in dealing with problems being considered. We feel we owe a considerable debt to Dr. Mc-

Cormack for the enthusiasm and interest in better health work which he aroused at this convention.

Dr. McCormack is held in the highest regard by all associated in health work and is considered to be one of the foremost authorities in the country.

If you so desire, I would be very glad to appear before your committee at my own expense to give you any information possible on this matter.

Very truly yours,

Cortez F. Enloe, M. D.,  
State Health Commissioner.

---

LOUISIANA STATE BOARD OF HEALTH

New Orleans, La.,  
January 18, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Ky.

Dear Doctor Abell:—

It has been brought to my attention that a bill will be introduced before your General Assembly during the present session which in effect will plunge your health administration into the political maelstrom. This would indeed be disastrous, not only for Kentucky but for other states as well. In your own state it would undoubtedly destroy the splendid co-operation which has existed for the past fifty years between the medical profession and those good citizens who have been and are interested in health work.

I understand the movement is aimed at your State Health Officer, Arthur McCormack and to me this is inexplicable.

Dr. J. N. McCormack, of revered memory, was one of the earliest pioneers in public health in this country, as you know. I have seen men and women listen to him for four hours at a time without wearying. By the force of his personality and because of his vision he gained such co-operation from the Kentucky physicians that the state was admitted to the registration area only ten months after the Model Law was enacted by the Legislature. This was a marvelous record. Dr. McCormack in his fine character and his work lives in the hearts of the men and women of the country.

Dr. Arthur McCormack, who has succeeded him, has the same splendid vision and the same strong personality. He has conducted the health affairs of Kentucky in accordance with the highest standards and ideals, he

has stood for progress in protection and promotion of public health; in fact, his name is a synonym for forward steps in everything that pertains to better health and longer life for the people of his state. His efforts have not been confined to Kentucky, he is known widely over the United States as one of the most successful and efficient of the executives occupying high place in the health affair of the states.

It would be a disaster to lose Arthur McCormack from the health work, but it would be even a greater one to make the office the football of a political faction or party or to weaken the independence of the office by giving the politicians opportunity to control. Freedom from political interference is absolutely indispensable in the proper conduct of a health department, state or city.

I sincerely trust that Kentucky will take no backward step in this important matter.

Very truly yours,

(Signed) Oscar Dowling,  
President.

---

Commonwealth of Virginia

STATE BOARD OF HEALTH

Richmond

January 5, 1924.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Ky.

My dear Dr. Abell:

I have been asked to write you a frank statement regarding my estimate of your State Health Officer, Dr. Arthur T. McCormack.

No doubt you know as well or better than I, how Kentucky's health work is regarded by other States. However, I feel that it would be proper to remind you that Dr. McCormack could have no higher testimonial to the respect entertained for him by the health authorities of the continent than was afforded by his election to the presidency of the State and Provincial Health Officer's Association.

So far as we, in Virginia, are concerned, we have a warm feeling for Dr. McCormack. He was the outstanding speaker at our 1922 Health Institute, and his inspirational address at that time was easily the feature of the week's convention.

Wherever Dr. McCormack goes, he must carry a splendid message from Kentucky and a telling advertisement for that State. Of



that I am sure. While personally I know little about your local health work, I know that Dr. McCormack could not have secured his position among his fellow health officers without having deserved their admiration.

Very truly yours,

(Signed) Ennion G. Williams, M. D.,  
State Health Commissioner,

STATE OF OHIO

DEPARTMENT OF HEALTH

Columbus,

January 15, 1924.

Dr. Irvin Abell,  
Chairman, Committee on Legislation,  
Francis Building,  
Louisville, Ky.

My dear Dr. Abell:

I was very much surprised to read in the press reports recently that an attack was to be made on Dr. Arthur T. McCormack, State Health Officer of Kentucky.

Dr McCormack's work has long been recognized by others in public health as one of the very best pieces of work in the country, and I am sure that other State Health Officers will join me in a protest against any summary action not based on defensible grounds. The high type and character of the work that Dr. McCormack has put forward has not only been a credit to the medical profession and to the public health of Kentucky, but he has made a substantial contribution to the cause of public health in a national sense. Kentucky should feel proud of him and his work.

Very truly yours,

(Signed) John E. Monger, M. D.,

Director of Health.

ALABAMA STATE HEALTH DEPT.

January 10, 1924.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Kentucky.

My dear Dr. Abell:—

I have been advised by Dr. McMurtry that an attempt will be made to pass a bill through the next legislature of Kentucky. Dr. Joseph N. McCormack was regarded by the medical profession of the nation as an outstanding medical statesman, a man of vision and unselfishness. The organization, which he builded for the State of Kentucky is looked up as one of the best state health systems ever devised in any of the states of

the union. It would be a disaster to public health work in the United States for it to be destroyed.

Dr. A. T. McCormack is probably the most conspicuous man of his age in public health work in the United States. He is known far and near for his remarkable personality, pungency of speech and his grasp of public health problems. It would be a disaster if those of us engaged in the development of public health activities in the several states of the union should be denied his council and advice. It would be a sad day for Kentucky should she break down her present health organization and repudiate the service of Arthur McCormack.

Hoping that wise councils will prevail in this matter, I am,

Respectfully.

(Signed) S. W. Welch,  
State Health Officer.

STATE DEPARTMENT OF HEALTH

Seattle, Washington.

January 11, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky,

My dear Dr. Abell:—

At the request of Dr. McMurtry, President of the State Board of Health of Kentucky, I am writing you in reference to a bill which is to be introduced in your legislature aimed at the organization of State Health Department.

I am thoroughly acquainted with your organization in Kentucky, and as the Board of Health is under the control of the Medical Profession the protection of the health of your people is removed from politics. All health authorities agree that this is as it should be and any attempt to put the Board of Health under the influence of politics in any way would be a serious blunder.

The present situation, however, I know is merely a personal attack on Dr. A. T. McCormack, State Health Officer, cloaked with a thin veneer which is easily penetrated—a bill, which if passed, would really disrupt one of the most efficient Health Organizations in this country and which would take away from the people of your commonwealth the efficient health protection which they have a right to demand.

Dr. McCormack and his father created and developed with the co-operation of the medical profession your Health Department which is the envy of many states. Their success

has been largely due to the fact that politics has not hampered their efforts. When your state has been blessed with the services of such an organization—such an administrator as Dr. McCormack, a man of such vision and creative ability, one with so big a heart and with the welfare of Kentucky and the health of her people always his chief concern in life—it would be folly to listen to the scheming personal attack against him fostered by some unscrupulous individual.

Dr. McCormack's wonderful character, although being generous to a fault, I do not expect will allow him to reveal the motive behind this attack, but there are plenty of people in Kentucky who will gladly reveal it.

The Health Authorities of North America look upon Dr. McCormack as one of their most illustrious leaders and I can assure you that any attack aimed at Dr. McCormack and the Health Organization of Kentucky is keenly felt by leaders in public health movements.

Yours very truly,

(Signed) Paul A. Turner, M. D.,  
Director of Health.

COLORADO  
STATE BOARD OF HEALTH

Denver, Colorado,  
January 11, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

My dear Doctor:

I am informed that there is to be an effort made by the Kentucky Legislature to displace my friend, Dr. A. T. McCormack, from his position as State Health Officer and put the State Health Department under a political regime.

Such a thing, to my mind, is nothing short of a calamity. Any state which has a health department that is independent of political control and organization is certainly to be complimented.

It would certainly be a calamity to have Dr. McCormack displaced at this time. It is entirely unnecessary for me to dwell on the work which Dr. McCormack has accomplished in your own state, but I would call particular attention to Dr. McCormack's wonderful influence over progressive public health matters throughout the country. His gifted oratory, his fund of wit and humor and his knowledge of public health matters make him not only one of the most delightful speakers to whom I have ever listened,

but one of the most forceful and influential. The value of his work is not only felt in Kentucky but all over the country.

I sincerely hope that petty jealousies and unscrupulous aspirants will be prevented from interfering in any way with Dr. McCormack's wonderful work.

Very truly yours,  
(Signed) TRACY R. LOVE,  
Secretary.

Commonwealth of Pennsylvania

DEPARTMENT OF HEALTH

Harrisburg

January 9, 1924.

The Secretary  
Dr. Irvin Abell,  
Francis Building,  
Louisville, Kentucky.

Dear Doctor Abell:

It has been my privilege for a number of years to know Dr. Arthur T. McCormack, State Health Officer of Kentucky, and I realize that he is one of the leaders in public health work in this country. He has built up in Kentucky an organization for public health work that is as good, if not better, than in most other States in the United States.

I hope nothing will be done to interfere with the continuation of Dr. McCormack's magnificent service to the people of the State.

Very truly yours,  
(Signed) Charles H. Miner,  
Secretary of Health.

AMERICAN CHILD HEALTH ASSOCIATION

370 Seventh Ave., New York

January 4, 1924.

Dr. Irvin Abell,  
Chairman of the Committee on Legislation,  
Louisville, Ky.

Dear Dr. Abell:

As former State Health Officer of Kansas who, after nineteen years of service, became the victim of a political upheaval, I am deeply concerned in what is said to be an attempt to place the State Board of Health of Kentucky in politics through the enactment of legislature which will make the State Health Officer appointed by the Governor.

If there is any one thing more than another that this country needs, it is legislative encouragement to public health workers to the end that all Boards of Health, State and local, may be effectively and forever remov-



ed from political influence. Public health and safety are two important to be made the football of partisan politics.

One of the pioneers in public health work in the United States, distinguished predecessor and father of the present State Health Officer, laid foundations thoughtfully and skillfully, and I think every State Health Officer will agree that this work has been faithfully continued by his son, Dr. A. T. McCormack. It is my candid belief that the cause of public health would suffer most severely, if, by any means, Kentucky should sacrifice her enviable position and record to the gods of politics.

Sincerely yours,

(Signed) S. J. Crumbine,

Director, Public Health Relations.

Commissioners of The District of Columbia,

HEALTH DEPARTMENT

Washington, D. C.

January 10, 1924.

Dr. Irvin Abell,

Chairman on Committee on Legislation,  
Francis Building,  
Louisville, Ky.

Dear Dr. Abell:

From information which has just reached me, I have formed the impression that a movement is on foot in the State of Kentucky to place the State Board of Health of that State in the political arena, thereby abolishing the present tenure of office system of appointment which has heretofore been in vogue.

As an official who has been actively engaged in public health work in the District of Columbia for nearly thirty years, I have had opportunity to become more or less familiar with the standing and qualifications of various public health officers throughout the Country. During this period, it has been my privilege and pleasure to have official relations with Dr. A. T. McCormack, the present State Health Officer of Kentucky, and from personal contact with him, as well as expressions of opinions from other health officials, I believe him to be an official of exceptional ability and energy.

He is well and favorably known to public health workers throughout the Country, and has occupied positions of prominence in public health organizations, notably the American Public Health Association, which Association he served as President during the last year. From my acquaintance with Doctor McCormack, I believe him to be a man of

high character, and exceptionally well qualified for the position he now holds. To lose his service would, to my mind, be a loss to the people of the State of Kentucky and to public health workers generally; moreover, I believe it would be difficult to secure the services of another man who would be as well qualified for the position.

I trust you will pardon my writing on this subject, but I felt that I would like to let you know my opinion of Dr. McCormack as a State Health Officer.

Very truly yours,

(Signed) W. G. Fowler, M. D.,  
Health Officer.

TEXAS STATE BOARD OF HEALTH

Austin, Texas,  
January 26, 1924.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Kentucky.

Dear Doctor Abell:

I am in receipt of a letter from the President of the State Board of Health in reference to some legislative matters, which I understand will be brought up for the purpose of effecting changes in the organization of the State Health Department.

I am glad that I have an opportunity to express my opposition to anything radical whatever in connection with that office which would tend to place it within the ring of politics. I am sure that it would greatly handicap your State Health Department in its activities, and its efficiency and its scope of work would suffer greatly. Your most able Dr. A. T. McCormack has served Kentucky in a very creditable manner, and I trust that no changes will occur which will handicap or hinder him in his conscientious efforts to make the State Health Department of Kentucky of true service to the public.

I have had the pleasure of meeting Dr. McCormack on several occasions, and know him to be one of the best health officers in the United States, and I would certainly consider it a step backwards in modern methods of civilization to handicap him in the work he is doing for the State of Kentucky by weighting down and hindering his Department with political strings.

You are at liberty to use this letter in any way that you see fit in behalf of Dr. McCormack, and I trust that the Legislature of Kentucky will not interfere with the direction of public health work in your state

by attempting to change the administration of that department.

Perhaps you will remember me as a member of the graduation class of your school of 1912.

With kindest regards, I am,

Sincerely yours,  
(Signed) W. H. Beazley,  
State Health Officer.

RHODE ISLAND

STATE BOARD OF HEALTH

Providence, January 11, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

Dear Sir:—

It has recently come to my attention that some action may soon be taken which might effect the tenure of office of the State Health Officer of Kentucky. If I am correctly informed in this regard it is to be regretted.

Kentucky now holds an enviable place in matters pertaining to public health among a sisterhood of states. Dr. McCormack was most fortunate early in life that he had his training in public health service under the guidance of his very illustrious father, Dr. McCormack, Senior.

The conference of State and Provincial Health Authorities of North America has recently shown its appreciation of his ability and popularity by conferring upon him its highest and most responsible office. We who are engaged in state public health work regard Dr. Arthur T. McCormack of Kentucky as one of the few very prominent, active conscientious teachers and leaders in the important matter of public health.

Respectfully,  
(Signed) B. U. Richards, M. D.,  
Secretary.

FLORIDA STATE BOARD OF HEALTH  
Jacksonville,

January 8th, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky.

Dear Doctor:

I want to take this occasion to commend most highly the State Health Officer of Kentucky, Doctor Arthur T. McCormack.

Dr. McCormack is of exemplary character of thorough professional knowledge, of marked aptitude for public health work and is eminently fitted to hold the position he now occupies. Doctor McCormack also has the rare gift of holding his organization together which tends to highest efficiency.

Sincerely yours,  
(Signed) R. C. Turck, M. D.,  
State Health Officer.

MINNESOTA STATE BOARD OF HEALTH  
State Capitol

St. Paul, February 2, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Ky.

Dear Dr. Abell:

At the direction of the President of the Minnesota State Board of Health, Dr. Charles L. Scofield, I enclose copy of a resolution passed by the Board at its meeting January 22, 1924, also a copy of a letter to Dr. L. S. McMurtry, President of the Kentucky State Board of Health.

Like other state health officers, I have the greatest personal admiration and regard for Dr. Arthur McCormack. We would feel his loss keenly in our State and Provincial Conference, and in our Conference with the Surgeon General, where his influence has been very great in the formulation of public health policies and in securing the support of Congress and the cooperation of official and voluntary agencies concerned in the public health work.

We trust that the Kentucky Legislature will realize the reputation Dr. McCormack has made as a public health administrator. He is known internationally as well as throughout America for his achievements in Kentucky and also the Canal Zone and generally in public affairs. It would be a calamity if his services were withdrawn from public health work.

Respectfully,  
(Signed) A. J. Chesley, M. D.,  
Secretary.

WHEREAS, the continuity of policy of official public health administration is essential to high public health standards, and,

WHEREAS, the introduction of political methods is fatal to this continuity and destructive to the morale of public health servants, leading to mediocrity of personnel, which in turn forfeits public confidence; and



WHEREAS, the Kentucky State Board of Health has been able, through continuity of policy and freedom from political control to attain high rank among the states for its efficient and economic public health work; and

WHEREAS, the Kentucky State Board of Health has enjoyed the loyal assistance of the medical profession and the cooperation of the people of Kentucky because of its policies having been administered by a trained sanitarian in whose ability and integrity the medical profession and the people have implicit faith;

THEREFORE, BE IT RESOLVED by the Minnesota State Board of Health that in its opinion any change in the established policy of Kentucky that might result in the introduction of political methods or the loss of the services of the present staff of the Kentucky State Board of Health, particularly of its distinguished and progressive Executive Secretary, Dr. Arthur T. McCormack, would constitute a serious set-back to public health work, not only in Kentucky, but throughout the United States.

BE IT FURTHER RESOLVED, that the appreciation of the Minnesota State Board of Health for assistance rendered repeatedly by Dr. Arthur T. McCormack in the promotion of public health work in Minnesota be acknowledged officially, and that the Secretary be instructed to send copies of this resolution to the President of the Kentucky State Board of Health, and to the Chairman of the Committee on Legislation.

(Signed) A. J. Chesley, Sec'y.

STATE BOARD OF HEALTH  
State of Minnesota

February 2, 1924.

Dr. L. S. McMurtry,  
President,  
Kentucky State Board of Health,  
Louisville, Ky.

Dear Dr. McMurtry:

The Minnesota State Board of Health, in session January 22, 1924, unanimously adopted the resolutions enclosed.

In transmitting this resolution of the Board, may I be permitted to add an expression of opinion by the members of the staff of the State Board of Health who know Dr. McCormack and for years have followed his work, the benefits of which have not been confined to Kentucky, but have been realized in many other states.

Minnesota has benefitted through the work of Dr. Joseph N. McCormack, whose long and able administration set a standard for such work.

Dr. Arthur McCormack has done so much in person for public health progress throughout the United States that all the state health officers felt under personal obligations to him. He has made many friends outside the medical profession here in Minnesota through his public addresses. All of those who have heard him speak or have read his articles on public health work I am sure would be glad to join in protest against any change by the legislature which would deprive the country of his services as a public health administrator.

Respectfully,

(Signed) A. J. Chesley M. D.,  
Secretary.

L STATE OF TENNESSEE L  
Department of Public Health  
Nashville.

January 5, 1924.

Dr. L. S. McMurtry, President,  
State Board of Health,  
Sixth and Main Streets,  
Louisville, Kentucky.

Mr dear Dr. McMurtry:—

Your letter of the 2nd, addressed to Dr. R. Q. Lillard, former Secretary of the State Board of Health, has been received.

I greatly regret to learn that unfavorable action has been contemplated concerning Dr. Arthur T. McCormack. I am one of the younger state health officers in point of service, and while I have not had any intimate contact with Dr. McCormack, I have high respect and a keen regard for his qualifications and ability and for the type of work he has carried on in Kentucky. In my opinion it is extremely disastrous for the element of so-called "politics" to in any way enter into the affairs of a state department of health.

My interest in Kentucky is somewhat personal, if you will pardon this reference, by reason of the fact that for about a century the people of my family have been associated with the affairs of the Commonwealth of Kentucky; therefore, you can readily understand my regret that anything should be done to interfere with the happiness and welfare of the citizens of that State.

Very truly yours,

(Signed) C. B. Crittenden,  
Commissioner of Public Health.

THE STATE OF UTAH  
State Board of Health  
Salt Lake City

January 14, 1924.

Dr. Irvin Abell,  
Chairman of Committee on Legislation,  
Francis Building,  
Louisville, Kentucky,

Dear Doctor Abell:—

I have been advised that the retirement of Dr. Arthur T. McCormack from the office of State Health Commissioner is contemplated and hasten to express my sincere hope that such action will not be taken.

Dr. McCormack has served his state with a very high degree of faithfulness, efficiency and distinction and is nationally recognized as one of the leading public health authorities of the United States, whose withdrawal from the public health field would not only be seriously felt in his own state, but would be deeply deplored by all state officials in whose councils he has taken a prominent and influential part.

Trusting that all citizens of Kentucky who are interested in the public welfare will realize the importance of continuing Dr. McCormack in office and use their influence to that end.

Yours very truly,  
(Signed) T. B. Beatty, M. D.,  
State Health Commissioner.

WAR DEPARTMENT  
Office of the Surgeon General  
Washington

January 11, 1924.

L. S. McMurtry, President,  
State Board of Health of Kentucky,  
Sixth and Main Streets,  
Louisville, Ky.

My dear Dr. McMurtry:—

I have had for several days your letter of January 2nd with reference to the scheme which is on foot to put the State Health Department directly into politics. It is needless for me to say that I think such a move in the State of Kentucky or any other State would be the most disastrous thing that could happen. A political Health Department has never been successful and never will be. My understanding is that your present health officer, Dr. Arthur T. McCormack, is one of the best health officers in the United States. He is a man that I see at all medical meet-

ings, and he is always heard in meetings where health matters are being discussed. I have known him for a good many years. In addition to my personal acquaintance with him he served during the World War from April 4, 1917, to February 11, 1919, and was the Chief Health Officer on the Isthmus of Panama, where he rendered excellent service.

Very sincerely yours,  
(Signed) M. W. Ireland,  
Surgeon General, U. S. Army.

STATE OF ALABAMA  
Alabama State Board of Health  
519 Dexter Ave, Montgomery

January 10, 1924.

Dr. Irvin Abell,  
Francis Building,  
Louisville, Kentucky.

My dear Dr. Abell:

I have been advised by Dr. McMurtry that an attempt will be made to pass a bill through the next legislature of Kentucky. Dr. Joseph N. McCormack was regarded by the medical profession of the nation as an outstanding medical statesman, a man of vision and unselfishness. The organization which he builded for the State of Kentucky is looked upon as one of the best state health systems ever devised in any of the states of the union. It would be a disaster to public health work in the United States for it to be destroyed.

Dr. A. T. McCormack is probably the most conspicuous man of his age in public health work in the United States. He is known far and near for his remarkable personality, pungency of speech and his grasp of public health problems. It would be a disaster if those of us engaged in the development of public health activities in the several states of the union should be denied his council and advice. It will be a sad day for Kentucky should she break down her present health organization and repudiate the services of Arthur McCormack.

Hoping that wise councils will prevail in this matter, I am Respectfully,

(Signed) S. W. Welch.  
State Health Officer.



## RESOLUTIONS REGARDING STATE BOARD OF HEALTH OF KENTUCKY

### COPY OF TELEGRAM

Samuel W. Adams,  
Speaker House Representatives,  
Frankfort, Ky.

Members of Covington Rotary Club and directors of this organization approve work of State Board of Health and urge you to lend your support to a continuation of its non-political and non-partisan structure, Covington Rotarians interested in the continued work of State Board of Health and indorse especially its public health nursing maternity and child health program. Our organization vigorously oppose any effort to disturb this functioning department and ask that you resist any such attempt through legislation.

Signed

James. A. Ryan, William Harton, Harry M. Penny, J. Robert Kelley, William Hoppenaans, John W. Menzies, Thomas Conry, Frank R. Evans, Henry W. Jenisch, Pryor C. Tarvin,

Board of Directors, Covington Rotary Club.

### TODD

At a regular meeting of the Todd County Medical Society, 6:30 p. m., Guthrie, Kentucky, the question was asked by the President, "What is this Society going to do or say about the suggested change in the management of the State Board of Health, known as Board's ripper bill No. 35?" The motion was made and carried unanimously that "The State Board of Health of Kentucky has the confidence of the physicians and people of Todd county, we approve of its methods of working and economy with which its duties are being performed, and we express our confidence in the high character and professional standing of the officers of the Board."

W. E. Bartlett, Secretary.

Scottsville, Ky., Jan. 23, 1924.

### ALLEN

Mr. R. O. Huntsman,  
Frankfort, Kentucky,

Dear Sir:

The Allen County Medical Society met at Scottsville, Ky., Jan. 23, 1924.

The following members were present and voted unanimously to oppose House bill No.

35, and to support the present Health laws.

The following members were present: Lattie Graves, C. A. Calvert, E. A. Whitlow, W. E. Willoughby, P. C. Graves, H. M. Meridith, R. W. Cook, A. O. Miller, M. Whitney.

We endorse the present health administration, and each of us personally knowing Dr. A. T. McCormack, request that you support the measures advocated by him as he is in full accord with the medical profession of the state.

Committee: C. A. Calvert, E. A. Whitlow, Lattie Graves.

### BELL

Whereas, certain bills are being introduced in the Legislature to create laws whereby certain classes of persons can practice the healing art in Kentucky, without even a basic knowledge of material medical, physiology or anatomy. And whereas other laws are to be passed that seek to tear down and destroy the high standing and efficient work of the Kentucky State Board of Health, which Board through a perfected organization with the United States Public Health Service and the Bell County Fiscal Court have established a Public Health Service and Clinics in Bell County, whereby the indigent are cared for and treated, at which clinics more than 500 persons were treated last year for social diseases that otherwise would not have been treated at all, which was not only a great protection to the people of Bell county but to the country at large.

And, whereas, our schools and rural districts have received public health service that has not been possible heretofore, thus preventing the spread of epidemics and saving many lives.

Therefore, be it resolved by the Bell County Medical Society that we believe it unwise and against the best interest of the people of the State of Kentucky, to change any of our present laws regulating the practice of the healing arts as well as the present law creating and governing the State Board of Health of Kentucky; and that we heartily indorse the high character and efficient work of our State Board, which without a doubt is a leader among the States in Public Health work

Therefore we ask you to oppose and vote against any and all measures that may be offered to change or modify our present Medical practice Act, or law creating and governing the State Board of Health of Kentucky.

Mason Combs, President,  
J. G. Foley, Secretary.

## METCALFE

The Metcalfe Medical Society met in the Circuit Clerk's office in Edmonton, Kentucky, on January 26, 1924, for the purpose of electing officers for the year 1924.

James Taylor, president, being absent, P. W. Bushong, was elected chairman of the meeting pro tem. The minutes of the previous meeting were read and approved. The next in order was the election of officers. P. W. Bushong was unanimously elected President, H. R. Vanzant was elected secretary and treasurer, James Taylor, S. M. Bowman, and P. D. Harvey were elected censors. J. A. Yates was elected delegate and Dr. James Taylor alternate. The following resolutions were adopted by a unanimous vote:

That we approve the present medical laws in force on the statutes of Kentucky and that we fully endorse the State Board of Health and its actions and think the present law as it now exists is far better than the proposed ripper bill sponsored by Dr. Milton Board, which we oppose in its entirety. It would be far better for the people and also for the Medical profession for the law to remain as it is on the statute.

On motion and second the meeting then adjourned.

P. W. Bushong, President, pro tem.  
H. R. Vanzant, Secretary.

## LAUREL

## TELEGRAM

Jan. 31, 1924.

Hon. Sherman Chastee,  
House of Representatives,  
Frankfort, Kentucky.

Everybody opposes Ripper Bill No. Thirty-five.

Laurel County Medical Society  
Wm. Johnson, M. D.  
President

## MARSHALL

The Marshall County Medical Society met in regular session on January 16, 1924, at one o'clock p. m., in the office of Doctors Washburn and Travis, Benton, Kentucky.

The president, S. L. Henson, being absent the meeting was called to order by V. A. Stilley.

Members present: W. T. Little, W. S. Stone, V. A. Stilley, F. M. Travis and L. L. Washburn.

The following officers were elected to serve the Society during the year 1924. President

W. S. Stone; Vice-President, F. M. Travis; Secretary, L. L. Washburn; Delegate to the State Society, W. T. Little; Alternate, W. S. Stone.

Board of Censors consists of the following: W. T. Little, to serve for three years, F. C. Coffield, to serve for two years, and E. G. Thomas, to serve for one year.

Our scientific program consisted of a report of interesting cases which was very instructive.

Our Society adopted the following resolutions: The Marshall County Medical Society in regular session January 16, 1924, unanimously wish to endorse the present non-partisan, non-political laws relating to the State Board of Health and Board of Charities and Corrections. We believe that modifications, such as seem to be contemplated by Dr. Milton Board as evidenced by his recent article in the Courier-Journal, will be a step backward and unwise.

The two boards are now rendering excellent service to the unfortunate charges of the state, and the safeguarding of the public health.

We commend the work of these boards and respectfully ask no change in our laws relating to them.

There being no further business the Society adjourned to meet again on February 20, 1924.

W. S. Stone, M. D., President  
L. L. Washburn, M. D., Secretary.

## OWINGSVILLE WOMAN'S CLUB

There being an effort at this time to pass a Ripper Bill, which would destroy our present State Board of Health, and place reconstruction of the same in the hands of scheming politicians, who want for themselves places and preferment rather than health efficiency. Said Bill being propelled by Dr. Milton Board.

Resolved: That we, members of the Woman's Clubs of Owingsville and Salt Lick at a joint meeting express our disapproval of said bill and do call on our Senator and Representative to use their influence and votes to defeat what is known as "Dr. Milton Board's Ripper Bill."

Unanimously adopted.

Signed: Mrs. Haury Daily, Secretary,  
Owingsville Woman's Club.



Dr. A. T. McCormack,  
Louisville, Kentucky,  
Dear Dr. McCormack:

I presented the subject, "The Merits of the Efforts of the State Board of Health in the last Fifteen and Twenty Years" reviewing the successful attainments in all matters pertaining to the public health of our state, to the Lions Club of our city today and resolutions were passed as follows:

"Resolved that the Lions Club of Paducah endorse the splendid work of the State Board of Health of Kentucky and urge the legislature at Frankfort to defeat House Bill No. 35, in the interest of our great Commonwealth."

Signed:

H. L. Winton, James Weille, H. Preston Sights, Committee.

A telegram was sent to Representative Pulliam and Senator Dycus, also to Governor Fields. We would have been glad to forward this resolution to every representative and senator and ask that you put in the hands of lawmakers a copy of this resolution. Will add that these were passed with enthusiasm and with numerous expressions of confidence and pride in the advancement of our state in public health work.

Respectfully,

H. Preston Sights.

#### Diet In The Treatment of Balantidium Coli Infection:

In the treatment of Balantidium coli infection, less attention has been given to diet than to other measures. The patients who were given a special diet by J. L. Green and F. J. Scully, Hot Springs, Ark. (Journal A. M. A., July 28, 1923), have done very well. Their routine procedure in these cases was as follows: The patient was given  $2\frac{1}{2}$  quarts (2.5 liters) of whole milk during the day. This was divided so that small portions were given at regular intervals. After several days the milk was supplemented by the addition of one or two soft eggs. The action of the bowels became normal within a week's time. The only drug used was bismuth subnitrate, in 15 grain (1gm.) doses, during the first day or two, to relieve the cramps and to check the diarrhea. Later, when the bowels became sluggish, stewed fruits were given. This diet was continued until the feces were free from Balantidium coli, when it was gradually increased until the patient was taking a full diet.

## SPECIAL ARTICLE

### Obstetrical Column

Edited by ALICE N. PICKETT

Director of Prenatal Clinic Louisville City Hospital.



MOTHER AND CHILD

We are reporting two services this month because of our inability to get out a report for our January number of the Journal. The two services have been outstandingly fortunate ones as to our results. We delivered 79 cases in the combined services of Dr. Helm and Dr. Payton and we are happy to be able to report no material or fatal deaths due to obstetrical difficulties.

#### DR. HELM'S SERVICE.

33 Cases—no maternal deaths—no fatal deaths of natal origin.

#### Syphilis.

We are proud to say for the first time since these records have been kept, all the mothers delivered, both in the house and on the outside, had the Wasserman test made. Four of the 33 cases gave positive reactions.

Case 13,—4 plus. 1 injection of Neo-salvarsan. Death in utero.

Case 16,—2 plus. No treatment. Death in utero.

Case 28,—4 plus. No treatment. Living baby born at term.

Case 29,—4 plus. No treatment. Living baby born at term.

Obs. Service Louisville City Hospital—10-27-23. 11-19-23, Dr. F. P. Helm, Int. Dr. L. E. Payton, Ext.

# Hospital Deliveries.

No.	Reg. No.	Para. Care	P. C. Care	B. P. R.	Toxaemia	Wass.	Prenat. Syph. Tr.	Ch. of Pelvis	Ch. of Delivery	Pos.	Wt. Baby At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	53614	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.0	Yes	Good	Good
2	53658	3	No	.....	.....	Neg.	.....	?	Spontaneous	L. O. A.	7.5	Yes	Good	Good
3	53659	1	No	.....	Eclampsia	Neg.	.....	?	Spontaneous	L. O. A.	7.14	6 Mo.	Dead	Dead
4	53023	14	Clinic	Normal	.....	Neg.	.....	Normal	Preceps	L. O. A.	7.2	Yes	Good	Good
5	53656	1	Clinic	140-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.11	Yes	Good	Good
6	53669	2	No	.....	.....	Neg.	.....	Flat	Caesarean	R. O. P.	6.12	Yes	Good	Good
7	53708	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.0	Yes	Good	Good
8	53710	2	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.5	Yes	Good	Good
9	53740	3	No	Normal	.....	Neg.	.....	?	Spontaneous	L. O. A.	2.10	7 Mo.	Lived 5 hrs.	Dead
10	53747	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.6	Yes	Good	Good
11	53764	1	No	.....	.....	Neg.	.....	Flattened	Forceps	L. O. P.	7.9	Yes	Fair	Good
12	53775	2	No	.....	.....	Neg.	.....	?	Spontaneous	L. O. A.	6.3	Yes	Good	Good
13	53782	2	Clinic	Normal	.....	1. Neo. Sal	.....	Normal	Spontaneous	L. M. A.	?	Yes	Good	Dead
14	53788	2	No	Normal	.....	Neg.	.....	?	Spontaneous	R. M. A.	7.10	7 Mo.	Good	Dead
15	53813	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.0	Yes	Good	Dead
16	53835	2	No	124-80	Moderate	2. Plus	None	Normal	Spontaneous	L. O. A.	5.7	Yes	Good	Good
17	53867	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.12	Yes	Good	Good
18	53888	1	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.3	Yes	Good	Good
19	53919	6	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.12	Yes	Good	Good
20	53923	1	No	130-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.3	Yes	Good	Good
21	53923	5	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.0	Yes	Good	Good
22	53939	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.0	Yes	Good	Good
23	53956	1	Clinic	160-100	Moderate	Neg.	.....	Flattened	Spontaneous	L. O. A.	6.12	Yes	Good	Good
24	53980	1	Clinic	145-70	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	5.6	Yes	Good	Good
25	54003	3	Clinic	140-80	Moderate	Neg.	.....	Normal	Spontaneous	R. O. P.	8.5	Yes	Good	Good
26	54027	1	Clinic	128-70	Slight	Neg.	.....	Gen'l. Cont.	Spontaneous	L. O. A.	6.12	Yes	Good	Good
27	54029	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. P.	7.14	Yes	Good	Good
28	54036	3	Clinic	Normal	.....	4. Plus	None	Normal	Spontaneous	L. O. A.	5.12	Yes	Good	Good—No sign lues
Home Deliveries.														
29		4	Clinic	Normal	.....	4. Plus	None	Normal	Spontaneous	L. O. A.	10 ?	Yes	Good	Good
30		5	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	6 ?	Yes	Good	Good
31		5	Clinic	132-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8 ?	Yes	Good	Good
32		3	Clinic	130-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8 ?	Yes	Good	Good
33		6	Clinic	130-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8 ?	Yes	Good	Good

No. of Clinic cases, 22.  
 No. of Non-Clinic cases, 11.  
 No. of Maternal deaths, 0.  
 No. of Foetal deaths, 6.  
 No. of Puerperal infections, 0.

No. of Maternal Syphilis, 4.  
 No. of Retro-Version on discharge, 9.  
 No. of Retro-Version on discharge, slight, 5.

No. of Clinic H. B. P. Cases, 9. 6.  
 } Slight,  
 } Moderate, 4.  
 } Pre-Eclampsic, 10.  
 No. of Toxemia cases  
 No. of Eclampsia cases, 1.  
 No. of Eclampsia cases, Pre-natal, 0.



Neither of the living babies showed any evidences of syphilis.

6 Fetal Deaths. None natal.)

While we had 6 fetal deaths this month, a study of the following table shows that not one of them can be counted against Dr. Helm's record of service.

Cases 13 and 16—Macerated babies—mother syphilitic.

Case 3—No prenatal care. Mother had eclampsia. Baby premature at 6 months. Dead on admission.

Case 9—Premature at 7 months—weight 2-10.

Case 14—Premature at 7 months.

Case 15—Normal delivery—cause of death unknown (see report which follows.)

Case 15—This patient was thought to have a sufficiently roomy pelvis for the safe passage of an average sized child. Her Wasserman was negative. The position was R. O. A. The first stage covered  $7\frac{1}{2}$  hours. The second was completed in 40 minutes. A living baby was born spontaneously, weighing 7 pounds and  $10\frac{1}{2}$  ounces. The child's color was never good. It died after 18 hours. The autopsy failed to reveal the cause of death, but certainly it was not of natal origin.

### 3 FORCEPS DELIVERIES.

Case 4—Hospital No. 53023. Para 14. Dr. Helm, Interne; Dr. Pickett, Staff.

This patient was treated in clinic. Her abdomen was so large that an x-ray was made to rule out a multiple pregnancy. Her measurements were good and her Wasserman was negative.

The membranes ruptured before the onset of labor. Her pains were infrequent and feeble, showing marked uterine inertia which was doubtless the result of her many pregnancies. The first stage required 40 hours. The descent of the head to the perineum required one hour and 15 minutes, when all progress stopped and low forceps were applied.

A living baby weighing 7 pounds and 2 ounces was delivered. Mother and child were discharged in good condition.

CASE 11.—Hospital No. 53764. Para 1. Dr. Helm, Interne; Dr. Pickett, Staff.

No Prenatal care. Her measurements taken on admission showed 26-29-18 $\frac{1}{2}$ . The arch and spines were fair. The diagonal was  $10\frac{1}{2}$ . The pelvis described "some flattening outlet fair". The pains were far apart and feeble. The child was lying in R. O. P. Attempts were made to change the position to an anterior one by combined internal and external manipulations and by placing the patient on a hard bed on her right side.

None of these measures were successful and when the first stage was completed after 39 hours the position was still R. O. P. The membranes were ruptured artificially and the child turned manually to R. O. A. and manually retained in this position while the anesthetic was removed in order to allow the uterus to drive down and fix the head. The contractions were too feeble to be effectual.

By pressure on the abdomen the back was pushed over to the mother's left side. At the same time the head was manually rotated into the L. O. A. position. By uterine contractions it was fixed in this position and mid-forceps were applied.

A living baby weighing 7 pounds and 9 ounces was delivered. Mother and child were discharged in good condition.

We chose the forceps rather than the version method because the pelvis was flattened, the patient a primipara and the baby relatively large.

### (1) CAESAREAN SECTION.

Case 6—Hospital No. 53669. Para 2. Dr. Helm, Interne; Drs. Speidel and Pickett, Staff.

This patient had had no prenatal care. She had been in active labor  $9\frac{1}{2}$  hours on admission. The membranes ruptured spontaneously immediately after her entrance to the ward. The child was lying in an R. O. P. position. The fetal heart was good and the pains almost continuous. Her external measurements were 25-26-18. A vaginal examination showed the head in R. O. P. position, high in the pelvis and movable. The cervix was almost two-thirds dilated. The arch and spines were narrow—the diagonal conjugate measured 10.

By referring to a previous record we learned that this patient had been delivered in the hospital in 1922 of a still-born child which was lost during the delivery, the mother sustaining a 3rd degree tear. A Caesarean Section was at that time advised in the event of a subsequent pregnancy.

A second vaginal made by the attending physician verified the findings of the first. Morphine gr.  $\frac{1}{4}$  had little effect on the severity and frequency of the pains. Six hours after the second vaginal examination we learned by abdominal and rectal examinations that no progress had been made in spite of hard pains and Caesarean section was done. The high incision method was used and a living baby, weighing 6 lbs., and  $12\frac{1}{2}$  oz. was delivered.

A superficial infection of the wound prolonged the patient's stay in the hospital un-

til the 28th day. Mother and child were discharged in good condition.

### 1 ECLAMPSIA (ANTEPARTUM)

CASE 3. Hospital No. 53659. Para 1. Dr. Helm, Interne; Dr. Pickett, staff.

This patient had no prenatal care. She was unconscious on admission and her family gave a history of her having had 6 convulsions following an attack of epigastric distress. She appeared to be between 6 and 7 months pregnant. No fetal heart was heard. Her blood pressure was 200-110. The urine showed albumin, a trace of sugar and granular casts. During her first four hours in the hospital she had 6 convulsions. By vaginal examination a small head was found low in the pelvis and the cervix admitted one finger.

She was put under gas anesthesia and a colonic irrigation of 5% bicarb. was given. 500 c. c. of blood were withdrawn from the vein. The stomach was washed out with 5% sat. sol. of mag. Sulph., containing 1-4 gr. soda bicarb. solution after which 4 oz. of of Elaterium were introduced through the tube. The patient was then put into a hot pack when the anesthesia was taken off and morphine gr. 1-4 was given by hypodermic.

She had 2 convulsions within the next 2 hours and morphine gr. 1-6 was given. Four hours after the beginning of the treatment she went into labor. At the end of the 1st stage she was taken to the delivery room and the membranes were ruptured artificially. The spontaneous delivery of a small premature child followed almost immediately,—6 hours after the beginning of the treatment.

The mother made an uneventful recovery.

### DR. PAYTON'S SERVICE

46 Cases—no maternal deaths—no fetal deaths of natal origin. Syphilis.

Of our 46 mothers admitted this month, 3 gave positive Wassermans. One mother (Case 23) developed secondary manifestations in the puerperium though her Wasserman was negative.

Two mothers delivered in the home did not have the tests done.

Case 5—4 plus—no treatment—baby still-born—delivered by family doctor. Probable death in utero.

Case 12—3 plus—no treatment—baby lived, Weight 4 lbs 9 ounces.

CASE 15—3 plus—no treatment—death in utero.

CASE 36—3 plus—treatment 6 neo. and 1 mereury—baby lived. Weight 8-lbs. 6 ounces.

ASE 23—Wasserman negative—secondary manifestations developed in puerperium—baby born at 7th month—weight 2-lbs. 9-ounces. Lived 28 hours. The death we thought due to syphilis. A second Wasserman was ordered but the patient left the hospital before, specimen was taken.

### 6 FETAL DEATH: (None Natal)

It will be seen from the following summary that none of these deaths were natal in origin. Not one of them could have been prevented by any degree of obstetrical skill on Dr. Payton's part.

Cases 5—15—23—fetal death due to syphilis.

Case 6—Delivered 15 minutes after admission. Labor normal. Baby still-born, one month premature. Weight 4½-lbs. Mother's Wasserman negative. Cause of fetal death not known.

Case 25—A case of hydrocephalus and club foot—baby dead on admission. Mother's Wasserman negative. See report under Version.

Case 39—A Home delivery. Labor normal. The second stage was completed in one hour. The baby was one month premature and weighed about 5 pounds. Lived 6 hours. Mother's Wasserman was negative. No cause of death other than prematurity could be given.

### 2 FORCEPS DELIVERIES

Case 9—Hospital No. 54026. Dr. Payton, Interne; Drs. Pickett and McConnell, Staff.

The patient, a para 2, was feeble-minded woman, who on admission complained of almost constant nagging pain. Her measurements were good. The baby was alive and in L. O. A. position. The head was floating. The cervix showed 1 finger's dilatation. The uterus was cone shaped—the apex being at the umbilicus and the fundus displaced well forward from the vertebral column.

Morphine was given in an effort to regulate contraction and aid dilation. A tight abdominal binder was applied in order to bring the fundus into proper relation to the birth canal but it did no good. A Voorhees Bag was inserted on the 8th day. Up to this time, she had had feeble ineffectual pains at widely varying intervals. The cervix showed only one finger's dilatation. By the misdirection of the uterine force the presenting part was driven down posterior to the cervix and made practically no pressure on the internal os. With cervix undilated, the head descended into the pelvis producing a



# Hospital Deliveries

No.	Reg. No.	Pat	P. C. Care	B. P. R. Toxemia	Wass.	Prenatal Syph. Tr.	Ch. of Pelvis	Ch. of Del.	Pos.	Wt. Baby	At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	54066	1	Clinic	126-80	Slight	Neg.	Normal	Spontaneous	Breech	4.6	8 1-2	Living	Good	Good
2	54089	1	Clinic	140-70	Moderate	Neg.	Normal	Spontaneous	L. O. A.	7.15	Yes	Living	Good	Good
3	54110	2	Clinic	124-56	Slight	Neg.	Normal	Spontaneous	L. O. P.	6.12	Yes	Living	Good	Good
4	54117	1	No	.....	.....	Neg.	Normal	Spontaneous	?	7.13	Yes	Dead	Good	Dead
5	54127	1	No	.....	.....	4 Plus None	?	Spontaneous	R. O. A.	7	Yes	Living	Good	Good
6	54159	3	Clinic	Normal	.....	Neg.	Normal	Spontaneous	Breech	4.5 ?	8 Mo.	Dead	Good	Dead
7	54160	2	No	.....	.....	Neg.	Normal	Spontaneous	L. O. P.	6.12	Yes	Living	Good	Good
8	54128	1	Clinic	Low	.....	Neg.	Out, let, cont.	Forceps	L. O. A.	4.13	Yes	Living	Fair	Poor
9	54026	2	No	.....	.....	Neg.	Gen. cont.	Spontaneous	R. O. A.	4.13	Yes	Living	Good	Good
10	54036	1	Clinic	132-58	Slight	Neg.	Normal	Spontaneous	R. O. A.	4.9	?	Living	Good	Good
11	54043	1	Clinic	Normal	.....	3 Plus None	Normal	Spontaneous	R. O. A.	7.7	Yes	Living	Good	Good
12	54108	3	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	5.6	Yes	Living	Good	Good
13	54214	4	Clinic	Normal	.....	3 Plus None	Normal	Spontaneous	L. O. A.	5 ?	6 Mo.	Dead	Good	Dead
14	54215	1	No	.....	.....	3 Plus None	Normal	Spontaneous	L. O. A.	8.10	Yes	Living	Good	Good
15	54202	2	No	.....	.....	Neg.	Normal	Spontaneous	L. O. A.	8.10	Yes	Living	Good	Good
16	54239	7	Clinic	150-74	Moderate	Neg.	Normal	Spontaneous	R. O. P.	7.6	Yes	Living	Good	Good
17	54214	7	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	7.3	Yes	Living	Good	Good
18	54096	1	Clinic	Normal	.....	Neg.	Normal	Spontaneous	R. O. A.	7.6	Yes	Living	Good	Good
19	54143	3	Clinic	Low	.....	Neg.	Normal	Spontaneous	L. O. A.	7.7	Yes	Living	Good	Good
20	53926	5	Clinic	Normal	.....	Neg.	Normal	Spontaneous	R. O. A.	7.1	Yes	Living	Fair	Good
21	54293	2	Clinic	.....	.....	Neg.	Normal	Version	L. O. A.	2.12	7 Mo.	Liv. 28 hr.	Good	Dead
22	54296	2	No	.....	.....	Pos.	Gen. cont.	Forceps	R. O. P.	6.6	Yes	Living	Good	Good
23	54300	1	Clinic	Normal	.....	Neg.	?	Spontaneous	L. O. A.	9 ?	Yes	Living	Good	Good
24	54328	1	No	.....	.....	Neg.	Normal	Version	Tr. Verse	5.4	Yes	Dead	Good	Dead
25	54357	6	No	.....	.....	Neg.	Normal	Spontaneous	L. O. A.	7.10	Yes	Living	Good	Good
26	54374	2	Clinic	152-80	Slight	Neg.	Normal	Spontaneous	L. O. A.	5.14	Yes	Living	Good	Good
27	54376	2	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	9	Yes	Living	Good	Good
28	54393	3	Clinic	144-80	Moderate	Neg.	Normal	Version	R. O. P.	7.15	Yes	Living	Good	Good
29	54389	3	No	.....	.....	Neg.	Normal	Spontaneous	L. O. A.	5.3	Yes	Living	Good	Good
30	54180	1	Clinic	Low	.....	Neg.	Normal	Spontaneous	R. O. P.	7.10	Yes	Living	Good	Good
31	54422	1	No	.....	.....	Neg.	Normal	Breech	L. O. A.	8	Yes	Living	Good	Good
32	54441	3	Clinic	Normal	.....	Neg.	Normal	Spontaneous	R. O. P.	4.9	?	Living	Good	Good
33	54497	2	No	.....	.....	Neg.	Normal	Version	L. O. A.	6.4	Yes	Living	Good	Good
34	54498	8	Clinic	132-88	Slight	Neg.	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Good
35	54511	7	No	.....	.....	3 Plus 6 Neo. 1 Hgo.	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Good-no sign lues
36	54512	4	Clinic	136-74	Slight	3 Plus 6 Neo. 1 Hgo.	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Good
37		4	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. P.	9. ?	Yes	Living	Good	Good
38		3	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	9. ?	Yes	Liv. 6 hr.	Fair	Good
39		3	Clinic	131-56	Slight	Neg.	Normal	Spontaneous	L. O. A.	5. ?	8 Mo.	Living	Good	Good
40		3	No	.....	.....	Neg.	Normal	Spontaneous	L. O. A.	12. ?	Yes	Living	Good	Good
41		4	Clinic	Normal	.....	Neg.	Normal	Spontaneous	R. O. A.	7. ?	Yes	Living	Good	Good
42		2	No	.....	.....	Neg.	Normal	Spontaneous	L. O. A.	7. ?	Yes	Living	Good	Good
43		3	Clinic	130-70	Slight	Neg.	Normal	Spontaneous	L. O. A.	7. ?	Yes	Living	Good	Good
44		7	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	7. ?	Yes	Living	Good	Good
45		1	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	8. ?	Yes	Living	Good	Good
46		7	Clinic	Normal	.....	Neg.	Normal	Spontaneous	L. O. A.	8. ?	Yes	Living	Good	Good

No. of Clinic cases 31.  
 No. of Non-Clinic cases 15.  
 No. of Maternal Deaths 0.  
 No. of Fetal Deaths 6.  
 No. of Puerperal Infections 1.

No. of Clinic H. B. P. cases 12  
 { Slight 9  
 { Moderate 3  
 { Eclampsia 0

(Sapraemia)

No. of Maternal Syphilis 5.  
 No. of Retro Version on Discharge 6.  
 No. of Retro Version on Discharge (slight) 8.

prolapse of the lower uterine segments. The bag was expelled after 5 hours, having accomplished a 3 finger's dilatation. All contractions ceased with the expulsion of the bag and the patient slept all night. Next morning the dilatation was found to be still 3 fingers but the cervix was dilatable. Mid-forceps were applied after dilatation had been accomplished manually.

A living baby, weighing 4-lbs. and 13½ oz. was delivered.

Case 23—Hospital No. 54300. Dr. Payton, Interne, Dr. McConnell, Staff.

In prenatal clinic the pelvis was described as "generally contracted, moderate degree". On admission the position was R. O. P. The baby was small and the fetal heart was heard in the right flank. The first stage required 11½ hours. The second stage required three hours and 40 minutes. Forceps were applied because of the long second stage with arrested progress. A living baby, weighing 2 lbs. and 12 oz. was delivered. It lived about 28 hours. The mother developed secondary manifestation of syphilis during the puerperium.

#### 4 VERSIONS

Case 22, Hospital No. 54296. Para 2. Dr. Payton, Interne; Dr. McConnell, Staff. No prenatal care. Pelvic measurements 20-23-19. Diagonal conjugate 11, Outlet fair. The first stage required 25½ hours. The head failed to fix and a version was performed. A living baby weighing 7 lbs. 7 ounces was delivered.

Case 25, Hospital No. 54357. Para 6. Dr. Payton, Interne; Dr. McConnell, Staff.

Patient brought in by her family physician. No fetal heart was heard. The baby was lying in transverse position—the right shoulder presenting and the right arm was lying in the vagina. The arm was replaced and version done. A dead baby was born showing hydrocephalus and club foot. The mother's Wassermann was negative.

CASE 29, Hospital No. 54389. Para 3. Dr. Payton, Interne; Dr. McConnell, Staff.

No prenatal care. No measurements recorded. Incomplete fixation in spite of complete dilation. Position R. O. P. Version was performed by Dr. Payton under the direction of Dr. McConnell.

A living baby weighing 9 lbs. was delivered.

Case 34, Hospital No. 54498. Para 8. Dr. Payton, Interne; Drs. Pickett and McConnell, Staff.

This patient showed on admission that labor had set in with severe pain, rupture of membranes and a profuse hemorrhage. She

was a prenatal patient with good measurements. The baby was alive and lying in R. O. P. Position. The cervix was soft and showed 1 finger's dilatation. A boggiess in the lower segment led to a diagnosis of a placenta praevia marginalis which was later confirmed. Thirty minutes after admission, she had a profuse hemorrhage which a vaginal pack failed to stop. Dilatation was completed manually and a living baby weighing 4 pounds and 9 ounces was delivered by version. Mother and child discharged in good condition.

#### 1 BREECH

Case 33, Hospital No. 54497. Para 2. Dr. Payton, Interne; Drs. Pickett and McConnell, Staff.

Patient was admitted with complete dilatation. The position was that of a frank breech and the presenting part had not engaged. The legs were brought down and a living baby delivered after the Potter method. The birth weight was 7 pounds and 10 ounces.

#### 1 SAPRAEMIA

Case 39.

Patient delivered at home by our out-patient corps. The labor normal in every respect and no interference of any kind was indulged in. The placenta was carefully examined and thought to be complete. The first ten days of the puerperium were free from temperature and otherwise uneventful except for a somewhat intermittent flow. On the 10th day her 1st day out of bed, she had a profuse flow. The next day she had two chills and her temperature went to 104. On her 18th day postpartum she was admitted to the surgical ward of the hospital with a temperature of 102. She was put to bed and the temperature immediately dropped to normal where it stayed for five days. However, the uterus remained boggy—the cervix soft, so that on the 5th day after admission, the uterus was curetted with a dull curett and several tags of tissue removed. The microscopical report was "no chorionic villi or decidua found in several sections".

A 48-hour blood culture was negative. Her temperature was 99.2 following the curettage but dropped immediately to normal. Three days later she developed pus in her breasts which brought her temperature up to 103. Two days after this she left the Hospital without permission because of home conditions.

We made a diagnosis of sapraemia, which condition was followed by a breast abscess.

This patient was never admitted to the obstetrical wards of the hospital.



## ORIGINAL ARTICLES

PROLAPSUS OF BLADDER IN INFANT:  
CASE REPORT.\*

By R. R. Elmore, Louisville

Rare cases are of themselves of small practical value—as the information they afford can seldom be applied—but in so far as they develop keen and accurate observation and promote intelligent research, they are worth while.

Dorris N.—Born July 3, 1922. Weight three and one-half pounds—being second in time of birth to a lusty brother. Aside from an indifference to feeding the early weeks of her life were uneventful.

On September 27, 1922, this little patient was brought to my office—weight seven and one-half pounds. History of frequent defecation with much mucus and curds, attended with heavy straining. Nursing poorly. Gastro-intestinal canal cleansed and food restricted.

Seen at residence October 1st. Rectal temperature 102 degrees. No improvement in gastro-intestinal symptoms.

A few days later was seen by Dr. James W. Bruce, who suspected pyelitis. Urinalysis revealed pus and rod bacilli. Intense rectal and vesical tenesmus continued.

On October 6th. the mother observed a reddish colored tumor about the size of a lead pencil presenting at vaginal orifice. This mass would bulge outwards during emptying of bladder or rectum, later receding. This mass slowly increased in size until a pear-shaped tumor about one inch in length presented, which did not disappear after defecation or urination. Touch or pressure of this mass caused intense abdominal straining. No urethral orifice could be observed.

On October 21-22, Dr. Irvin Abell replaced this mass, which proved to be an inverted urinary bladder. An umbrella-shaped catheter was introduced into the bladder to prevent recurrence of prolapse; this procedure was done under light anesthesia. Bladder irrigations and instillations of silver salts were given.

October 23, catheter was forced out. I was able to replace it but it was again displaced in a few hours.

Highly irregular temperature, severe loss in weight, anorexia, bronchial rales, profound lassitude and relaxation indicated the struggle was nearly over. Death occurred on

October 30, with bronchial pneumonia as a terminal condition.

I have not been able to find report of a similar case or mention of it in genito-urinary textbooks.

## DISCUSSION

**James W. Bruce:** I had the privilege of seeing the child mentioned by Dr. Elmore. Urinalysis showed that we were dealing with a case of pyelitis. Of course we know that cystitis in female infants is quite common and usually runs a benign course. However, when complicated by pyelitis the course may be exceedingly severe and may cause death promptly.

Personally I have never before heard of prolapsus of the bladder in a case of this kind. The only way I can explain it is that there was a short urethra, the surrounding tissues participating in the infection became loosened, and the continual straining forced the bladder outward. As Dr. Elmore has said the bladder looked like a pear-shaped mass of inflamed mucosa, complete eversion had occurred, like an umbrella turned wrong side out.

Dr. Abell used a No. 20 catheter in pushing the bladder back into its normal position. The amount of urethral distension can be imagined when I say a catheter of that size was introduced with ease. The case was very unusual in my experience.

**R. R. Elmore (Closing):** I wish only to say in closing that had we recognized the true state of affairs at the outset and instituted irrigations of the bladder with one of the silver salts before there was very much prolapse we might have saved the child's life. However, it was a type of trouble that I had never seen before and the diagnosis was at first uncertain.

## CLINICAL STUDIES OF QUINIDIN

Of sixty-one cases of auricular fibrillation treated by JAMES G. CARR, CHICAGO, and WALTER H. SPOENEMAN, St. Louis (*Journal A. M. A.*, July 28, 1923), with quinidin, seventeen, or 28.3 per cent., resumed sinus rhythm. Practically all of the patients in this group were "old cardiac" patients, many of whom had been treated several times for broken compensation. These results lend some support to the prevalent theory that quinidin is more likely to cause resumption of normal rhythm in those cases in which the fibrillation is of the recent onset. The rheumatic cases, though not more likely to return to sinus rhythm, did show a greater tendency to maintain the restored rhythm, and to be benefited, clinically, by the change. The most striking feature in the successful use of quinidin was the subjective relief experienced by the patients. Many of these patients immediately expressed their pleasure in no longer feeling the annoyance caused by the irregularity. The authors believe that this subjective relief offers the most certain indication for the use of quinidin, and that those patients, in particular, who are troubled by the irregularity, should be given the benefit of quinidin therapy. Carr and Spooneman are of the opinion that the restoration of the normal rhythm is often of real value to the patient as an aid to the maintenance of compensation. Under proper conditions, quinidin offers enough hope of relief to warrant its continued use, though the treatment of auricular fibrillation had better not be undertaken outside a hospital until the routine of safe treatment is more carefully worked out. The authors do not believe that patients with fibrillation of long duration must be denied the possible benefits of quinidin therapy simply because the condition has existed for a long time.

\*Clinical report before the Jefferson County Medical Society.

## A BRONCHOSCOPIC CASE\*

By GAYLORD C. HALL, Louisville

D. B. E., aged eight years, Irving, Ky., seen at St. Anthony's Hospital March 13, 1923, through the courtesy of Dr. Walter Hume. The history was as follows: Two days ago while playing with some glass beads the child had put one in mouth which had been sucked into the lung. The patient was taken to Dr. Hume's brother at Richmond, Ky., who made an x-ray examination and found the bead to be in the trachea. The child had little reaction beyond an occasional cough and choking spells with attacks of cyanosis.

Examination showed a practically normal pulse and temperature with slightly increased breathing, diminished resonance and expansion over the left side of the lung, especially the upper part.

Immediate bronchoscopy without anesthesia. Instrument passed and bead located in left bronchus beyond bifurcation. The difficulty in controlling the child without an anesthetic induced us to withdraw the tube and administer ether, after which the bronchoscope was again introduced and attempts to extract the bead made. All of these attempts failed because the bead completely filled the lumen of the bronchus and the shape and consistency made it impossible to pass forceps between it and the bronchial wall to obtain a grasp upon it.

After forty-five minutes of futile attempts the seance was terminated the child being sent to bed in fair condition. She reacted nicely though developed a temperature of 103 degrees F. on the second day with decided rales, increased respiration and cough.

This was controlled by a purge and administration of atropin, and on the fourth day the second attempt was made to extract the bead which showed it in a lower position in the bronchus with an area of edema directly above.

The forceps again failing, right angle hooks were employed to pass beyond the bead in an attempt to "drag it out." A forceps tip for inserting into the hole of the bead, which had been modified, was also used without success so that the second attempt had to be abandoned. On this occasion we employed suction freely and removed from the lungs a considerable quantity of mucus.

There was no trouble in locating the bead each time and it was seen that the hole was open and a little air was delivered to the lung below through this opening. That and the inert nature of the glass bead was re-

sponsible for the trivial reaction that followed its presence in the lung and our attempts at extraction.

Having completely failed the first two attempts I concluded that the only method of bringing this case to a successful termination would be by means of a special instrument so constructed that it would thread into the hole in the bead and hold on the pull by means of threads cut into the instrument and made it with a backward pitch.

This instrument was readily constructed for me by one of the instrument makers here and three days later a third attempt was made.

Considering difficulty in the two former efforts the third attempt was exceptionally easy, it being possible to insert the tip of the instrument into the hole of the bead on the first trial. This was twisted down until I could feel it had taken hold and the bead was turning in the bronchus, after which it was slowly withdrawn together with the bronchoscope; the operating time of the last attempt not being over ten minutes.

This third attempt resulted in no reaction and the child went home the next day perfectly well.

The case is reported to illustrate several phases of this work. First, that more than one attempt may be necessary before a successful extraction of such bodies may be accomplished.

Second, several attempts of moderate length are greatly to be preferred to one sitting unduly prolonged. Forty-five minutes certainly should be the limit of any attempt.

Third, these cases are almost wholly a problem of mechanics. The proper instrument being at hand it is usually possible to successfully remove these bodies. It should be remembered, however, that this work is still in the developmental stage and that one may encounter a problem, as in this case, where no suitable instrument is available and one had to be constructed to meet the requirements.

## EPIDEMIOLOGY OF COLDS IN INFANTS

Five hundred cases of colds were studied by Walter Fritz Winholt and Edwin Oakes Jordan, Chicago (*Journal A. M. A.*, July 28, 1923). There was a distinct history of a cold in some member of the family in 290 of the 500 families in which the baby had a cold, but in only 180 of the families to which the normal babies of the control series belonged. That is, 58 per cent. of the babies having colds at the time they were brought to the infant welfare stations had presumably been more or less in contact with other cases of cold in their respective families, while only 36 per cent. of those without colds had been subject to similar contact.

\*Clinical report before the Jefferson County Medical Society.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

O. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. B. McCCLURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. McMURTRY .....Louisville

W. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

### FOURTH DISTRICT

C. Z. AUD .....Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

R. C. McCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

J. E. WELLS .....Cynthiana

### NINTH DISTRICT

J. W. KINCAID .....Catlettsburg

### TENTH DISTRICT

R. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

J. S. LOCK .....Barbourville

### SECRETARY-EDITOR.

ARTHUR T. McCORMACK .....Louisville

### BUSINESS EDITOR

L. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

H. A. COTTELL .....Louisville

J. K. FREEMAN .....Louisville

### ASSISTANT EDITORS

#### UROLOGY

W. A. GRANT .....Louisville

#### DERMATOLOGY

S. A. STEINBERG .....Louisville

#### GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

#### PEDIATRICS

P. F. BARBOUR .....Louisville

#### OBSTETRICS

EDWARD SPIDEL .....Louisville

L. C. REDMON .....Lexington

#### BYE

ADOLPH O. PFINGST .....Louisville

#### EAR, NOSE AND THROAT

O. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

R. H. COWLEY, .....Berea

#### ANESTHETICS

W. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

### Washington County Approves Present Law—

The civic consciousness of the undersigned Organizations and individuals of Springfield and Washington county, as expressed by the following resolutions should be of vital interest to every citizen of Kentucky.

It is recognized by all well-informed people that our present State Health Law is a model, one of the best in the United States. This law stands today as a monument mainly to one man, Doctor J. N. McCormack, recently deceased.

He has been judged oftenest and most unjustly, as men usually are, by those who knew him least, but to the best informed of the Medical Profession and also the intelligent laymen of the United States and Nation he is known as a humanitarian in the best sense of the word. He was ever aligned on the side of the weak and oppressed; ever, with God-like fearlessness, he stood for Right against Might, for purity against corruption. He fought the fight for many years against the many-sided monster DISEASE,—and the present State Law is the child of his untiring intellect and energy and that is why today we are asking every right thinking man and woman to fight for the law as it stands.

Whereas, The State Board of Health of Kentucky as now organized and administered, is fair, just and impartial, and is composed of and represented by all the organized and recognized Schools of Medicine and the Healing Art, and it is a known fact that not a single one of these, now practicing under license of the Board, and having been examined by the Board according to law in the fundamental branches, object or oppose the Board, because of the fact that these respective Schools, represented by high-class, honest and competent men, know that the Board as now conducted and operated is non-political, just and fair, and,

Whereas, It is only the great horde of itinerant vendors of worthless nostrums, charlatans, quacks, certain organized interests both within the Medical Profession and without, and an organized cult with financial backing, endeavoring to repeal or modify our present law, so that they may prey without hurt or hindrance on the great army of ignorant, illiterate and unfortunate sick and afflicted; and also, side by side and allied with the above-named forces will be found the Demagogue, the man, whether he wear the cloth of the clergy, the uniform of the soldier, the habiliments of the reformer, or what not, is always the same at heart,—never for himself, never for the nation and the future but always for power and the present; a man or men who would make our great State Board of Health Law a powerful political machine, which would destroy its aims and usefulness forever,—therefore,—be it

Resolved, That collectively and individually we are opposed to any party or policy, any man or measure, that would repeal, modify or nullify our present State Board of Health and we appeal to our senator and representative and all candidates for State Office, to refuse to sacrifice their patriotism, their duty to the great army of suffering humanity in our State, on the unclean altar of partisan slavery; that they may realize that the people were not made for the Parties but the Parties for the People; that we collectively and individually will support those men and women who will have the courage to take a fearless and outspoken stand against these forces, who will take DUTY as their guiding-star, regardless of Party or Creed, and who are strong enough to withstand the gibes of malice and the jeers of ignorance, and, finally, who will wage relentless war against the DEMAGOGUE and his cohorts wherever found.

#### WASHINGTON COUNTY MEDICAL SOCIETY

J. B. Overall, President

J. H. Hopper, Secretary.

MRS. J. B. OVERALL, Chr. P. T. A.

MRS. J. R. DURRETT, President Womans' Club

YOUNG MEN'S COMMERCIAL CLUB,

By C. J. Haydon, President.

KENTUCKY ASSOCIATION OF OPTOMETRISTS.

**Hardin:** The Hardin County Medical Society met on the above date at the office of Dr. D. E. McClure with the following present:

J. M. English, vice-president, presiding; H. R. Nusz, Cecilia, J. W. Brandon, East View, J. C. Mobley, R. T. Layman, W. F. Alvey and D. E. McClure, Elizabethtown.

The minutes of the last meeting were read and approved.

There were several interesting cases reported and discussed. The afternoon session was held at the Community center where all the meetings will be held in the future. This Community center which was opened to the public Dec. 29 was donated to the people of Hardin county by Dr. Pusey, of Chicago, and is the greatest institution Hardin County has.

While the number of doctors in the county grows smaller every year, the outlook for the profession was never brighter. Most of the doctors are working to keep abreast of the times and are doing splendid work. It is to be regretted that a few, to their disadvantage, do not attend society and are missing the great benefit of "mind coming in contact with mind" which is so helpful to professional men.

D. E. McClure, Secretary.

**Clark:** The annual meeting of the Clark County Medical Society was held on Friday evening, December 21, 1923, at 8 o'clock, at the office of the secretary.

Members present: Drs. Rose, Baucom, Henry, E. R. Bush, W. A. Bush, Ishmael, Browne, F. S. Allan and Doyle.

Minutes of the previous meeting were read and approved.

The treasurer's report for the year 1923 was read and adopted.

The nomination for officers for the ensuing year was opened and the following were nominated for the various offices:

President, Dr. Samuel J. Rose; Vice-President, Dr. W. Carl Grant; Secretary-Treasurer, Dr. George E. Doyle; Censor, Dr. J. E. Baucom; Delegate, Dr. Browne, Ishmael; Members of Hospital Staff, Drs. I. H. Browne, S. J. Rose and George F. Doyle.

There being no opposition, a motion was made by Dr. E. R. Bush that the officers be elected by acclamation, seconded by Dr. Ishmael. The motion was carried and the officers were so elected.

The retiring president, Dr. Baucom, made some very appropriate remarks, in which he thanked the members for their support during the past year and bespoke for the new president a greater measure of support.

Dr. Rose, upon taking the chair, made a fitting address, wherein he offered a number of suggestions for the benefit of the Society collectively and the members individually.

There then followed a general discussion of the suggestions made by the new president, after which the meeting adjourned.

George F. Doyle, Secretary.

**Franklin**—The Franklin County Medical Society met in regular session at Capital Hotel, Tuesday, Jan. 8th, at noon with Dr. C. T. Coleman, president, presiding, 14 members present, and Dr. S. J. Anderson, Midway guest.

Minutes previous meeting read and approved.

Treasurer reported \$13.50 in treasury.

Dr. Budd made a motion, seconded by Dr. Roemele, that the Franklin County Medical Society go on record as endorsing the present State Board of Health. Carried and the chair appointed Drs. Minish, Roemele and Budd to draw up suitable resolutions to that effect, same to be incorporated in minutes, published in our daily paper, and a copy sent to our Governor, Senator and Representative.

E. C. Roemele suggested the society extend an invitation to Dr. J. S. Lock, Executive Secretary of the Kentucky Tuberculosis Commission to come to Frankfort in February under the auspices of



the Franklin County Medical Society and make a demonstration and talk on his work, the public invited. This was put as a motion and carried. A committee composed of the president, secretary and Dr. Roemele appointed to make all arrangements.

Dr. Budd made a talk on "The Sick Public and the Sick Doctor" in which he proposed a Credit Rating for Franklin County to be strictly confidential to doctors. Dr. Budd moved a committee be appointed to receive lists with rating from all doctors, compile same and send a properly rated list to each doctor in county. Carried. Drs. Budd, Demaree and Minish appointed as committee.

It was also voted to put notice in local paper in the name of the Franklin County Medical Society that they proposed a Credit Rating System to become effective April 1st.

This same committee was appointed to prepare a new fee schedule and report at next meeting.

No further business the society adjourned to the dining room where an excellent dinner was served and a most pleasant hour enjoyed by all.

F. W. MARTIN,  
Secretary.

**Bath County**—At a meeting of the Bath County Medical Society the resolutions recently drafted by the Bourbon County Medical Society, favoring our present statutes regarding Health Boards, Charities and Corrections, was read and adopted. It was further resolved, that our present health laws are fair and just to every medical cult and dictated by the best wisdom of the medical profession in an effort to protect suffering people from ignorance and duplicity. Resolved, that we hereby petition our Representatives in the House and Senate in the interest of public health and welfare to use every influence to maintain our present laws, and to support no legislation enacted whereby our State Board of Health should be restrained from passing on the competency of those who administer to the sick.

Resolved, as physicians we oppose any effort to pass a so-called Ripper Bill, prompted by self-interest and malice.

H. J. DAILY,  
Secretary.

**Nelson**—At the regular annual meeting of the Nelson County Medical Society the following officers were elected:

S. A. Cox, president.

J. J. Wakefield, vice-president.

R. H. Greenwell, secretary-treasurer.

H. S. Harned, censor.

R. H. GREENWELL,  
Secretary.

**Daviess**: The Davies County Medical Society met on December the 18th. Had a dinner and a good meeting. Elected the following officers:

President, R. E. Griffin, Owensboro; Vice-President, W. B. Negley, Owensboro; Secretary-Treasurer, J. J. Rodman, Owensboro; Delegate, J. D. Stewart, Rome; Censor, O. W. Rash, Owensboro.

The Society passed resolutions on the death of Dr. W. H. Strother which took place recently.

J. J. Rodman, Secretary

**Ballard**: The following officers were elected at our annual meeting: President, G. L. Thompson, Wickliffe; Vice-President, J. C. Sullivan, Wickliffe; Secretary, Bob C. Overley, La Center; Delegate state meeting, Dr. W. A. Page, Barlow; alternate, Dr. Ashbrooks.

Every Doctor in Ballard is a member of society.

Bob Overley, Secretary.

**Wayne**—At our last meeting in December T. H. Gamblin was elected president for 1924; O. M. Carter, delegate and J. F. Young, secretary.

Our next meeting will be in O. M. Carter's home, Jan. 8, 6.30 P. M. We hope every doctor in the county will come to this meeting and bring his wife.

## BOOK REVIEW

**Cerebro-Spinal Fluid In Health and In Disease**, By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, Attending Physician, Department of Contagious Diseases, Cook County Hospital, Chicago; Attending Pediatrician Sarah Morris Hospital for Children of the Michael Reese Hospital, Chicago, Attending Pediatrician, Mount Sinai Hospital, Chicago, with a foreword by Ludwig Hektoen, M.D.

With 69 illustrations, including five color plates. Second edition, thoroughly revised. C. V. Mosby Company, Publishers, St. Louis. Price, \$5.00.

The second edition has been thoroughly revised, many old illustrations have been discarded and many new ones added and some of the methods of examination have been simplified for practical use, and references have been brought up to date.

Cerebro-spinal fluid is discussed in its various phases, the nature of the fluid in the normal state, and its deviations in disease processes. The author's results in clinical and experimental studies have been recorded as well as the observation of many other workers.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



Thousands  
of physicians have  
found S.M.A. help-  
ful in their problem  
of feeding infants  
deprived of breast  
milk, since *most  
infants do exceed-  
ingly well on it.*

Formula by permission of The  
Babies' Dispensary and Hospi-  
tal of Cleveland. Sold by drug-  
gists on the order of physicians.

Literature and samples on re-  
quest. The Laboratory Pro-  
ducts Co., 1111 Swetland Bldg.,  
Cleveland, Ohio.

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., APRIL, 1924

No. 4

## CONTENTS AND DIGEST

### EDITORIAL

MUTUAL CONGRATULATIONS .....	111
YOUR DUES .....	112
THE ANNUAL CONFERENCE FOR HEALTH, OFFI CERS .....	112
CONFERENCE ON MEDICAL EDUCATION .....	113

### ORIGINAL ARTICLES

INSULIN IN DIABETES, By Virgil E. Simpson and Frederick Speidel, Louisville, .....	114-129
---	---------

DISCUSSION, By R. H. Davis, Frederick Speidel,  
Earnest Bradley\* and in Closing V. E. Simp-  
son

### COUNTY SOCIETY REPORTS

CLARK .....	133
WHITLEY, PERRY .....	134
FRANKLIN, HARDIN, CHRISTIAN .....	135
PENDELTON, SCOTT .....	136
THE KENTUCKY OSTEOPATHIC SOCIETY .....	136

## Abt's Pediatrics Immediately Successful—WHY?

*Because* it is the first comprehensive and truly complete Pediatrics in thirty-five years.

*Because* it is the aggregate experience of 150 specialists of international reputation.

*Because* it gives an inclusive survey of the fundamentals of sound pediatric practice—history, anatomy, physiology, physiologic chemistry, metabolism, feeding, hygiene, and the various forms of therapy.

*Because* it discusses in the light of today's accepted knowledge each disease individually; not superficially, mind you, but exhaustively, stressing the clinical side.

*Because* it recognizes the importance of, and fully covers, *pediatric surgery*, remembering that the surgical pathology of childhood is different from that of the adult; diagnostic signs and symptoms may be different, the technic demanded may frequently be different.

*Because* it contains 1500 illustrations, included because of their *clinical* value.

*Because* it embraces the entire subject from every angle, *medical and surgical* through a series of monographs pre-eminently noteworthy for exactness of detail, soundness of teaching and thoroughness of discussion.

By 150 authorities. Edited by ISAAC A. ABT, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Eight octavo volumes, totaling 8000 pages, with 1500 illustrations.  
Per volume: Cloth, \$10.00 net. *Separate Desk Index Volume Free.*

W. B. SAUNDERS COMPANY

Philadelphia and London



MEAD'S

# BETTER BABIES

## SIMPLIFIED INFANT FEEDING

First Thought

# Breast Milk

No system of feeding so simple and satisfactory as *breast nursing* the infant has ever been devised.

Every infant should have an opportunity to obtain Breast Milk hence our sincere efforts to furnish ways and means of prolonging lactation in the mother without the use of drugs or concoctions are fully described in our pamphlet entitled

*"BREAST FEEDING AND THE RE-ESTABLISHMENT  
OF BREAST MILK"*

## ARTIFICIAL FEEDING

The value of Mead's Dextri-Maltose in average babies is many times multiplied by the confidence of physicians who prescribe it in their infant feeding milk modifications. Mead's Dextri-Maltose represents an ethical ideal. Moreover the combination of Mead's Dextri-Maltose, fresh cow's milk and water gives gratifying results.

DIARRHOES IN BREAST FED BABIES respond to a diet of Mead's Casee or Mead's Powdered Protein Milk.

EVERY INFANT, whether breast fed or bottle fed, should receive the protective antitrachitic value of Mead's P & C Cod Liver Oil.

The infant diet materials advertised here, when used by the physician, will meet the nutritional requirements of a large number of well and sick babies.

Please tear out this coupon and send for the following:

1. Pamphlet on Breast Feeding.
2. Sample and literature on Mead's Dextri-Maltose—Mead's Casee—Mead's Powdered Protein Milk—Mead's Cod Liver Oil—Mead's Tool Kit for Individualized Infant Feeding.

Name .....  
Address .....  
City .....  
State .....

Kentucky Medical Journal—April Issue

*Mead-Johnson  
& Company*



*Evansville,  
Indiana*

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., APRIL, 1924

No. 4

## EDITORIAL

### MUTUAL CONGRATULATIONS

The General Assembly of Kentucky has again voiced the popular confidence its people feel in the medical profession. For fifty years our statutes have recognized the leadership of the practicing physicians of the state in the public health and have squarely placed the responsibility for it upon their shoulders. From the public prints it naturally appears, sometimes, that one man or a few men must bear most of the brunt of the attacks from those interested in their personal aggrandizement at whatever sacrifice of the public good. "Appears" is used advisedly in this sentence. Those behind the ripper legislation and the several amendments to the practice acts talked speciously of their desire to get rid of individuals, but the people of the state saw through their raw design to seize control of Kentucky's remarkable public health organization so that it might be exploited for their personal and political gain. "There can be no compromise with dishonor." The medical profession of Kentucky points with pride to its achievements. It has a noble heritage from its great leaders who have made their impress on the history of the state. Those who live now have a greater responsibility than ever before because they have inherited a greater public confidence. It is up to the profession to continue to merit this confidence. "By their fruits ye shall know them." Since 1900 the average age from death in Kentucky has been raised from 32 to 53. The profession must wisely use the leadership intrusted to it that maternity and infancy may be made safer, that during the preschool age defects that may later become deformities shall be removed, and that during school life the developing citizen shall be taught the value of and methods in personal and community health. Typhoid fever, tuberculosis and other community diseases, developed in ignorance and caused by neglect, must be eliminated as rapidly as possible. Venereal diseases must be reduced to their

irreducible minimum. Male and female prostitutes must be confined in institutions where they can be worked instead of working the public to its detriment. Dental hygiene must be made available for every child, and man and woman. The pre-cancerous stage must be recognized and relieved. People must be taught the value of systematic periodic examination so that developing defects may be promptly corrected.

It is because the medical profession is animated by these motives that it is determined to do these things for and with the people of Kentucky that the House of Representatives tabled the ripper bill, which would have made the non-political, non-partisan Board, of which we have been justly proud for forty years, into a plaything of the crooked politicians who have debauched so many departments of Kentucky's government by a vote of 63 to 31. It was because of the people's confidence in the integrity of the profession that the chiropractic bill was defeated in the Senate by a vote of 24 to 14.

It is important that the claims of the opposition in this General Assembly go down in medical history of the State. Most of them were proved to be false, but they were acclaimed from the housetops. It was, first, advertised that Mr. Cantrill would destroy the State Board of Health and substitute for it a political board. Those responsible for this claim assumed leadership of public affairs upon his death and claimed to have nominated his successor and to have had control of him. They attempted to place him before the public as a creature of their creation and ilk instead of the man of honor that his public life had shown him to be. They claimed the credit for his good appointments and privately assured every man who received public honor that they had been responsible for his election. They officiated boldly as if in control of the inaugural ceremonies at Frankfort. When the General Assembly met, they not only spoke as men of authority in the administration but announced to one and all that they would distribute the patronage while rewarding those faithful to them and



punishing any who dared oppose them. They claimed the organization of the House and Senate down to the pages. They claimed the selection of the committees. They appeared before the Committee on Public Health in the House and secured the favorable reporting of both the chiropractic and the ripper bills without granting the profession the ordinary courtesy of a hearing. They advanced their bills through all of the adventitious channels of political chance. They brought their ripper bill up in the House ahead of the great constructive administrative measures and, when they found an aroused public opinion would defeat it, they were powerful enough to have it recommitted. They were enabled to bring it out from the Rules Committee and put it on the board on the day that its official author, who, in the meantime, had been made the chairman of an investigating committee for whom they claim to have prepared the questions and the report, was the floor leader for the day and it was brought out at the strategic moment when they felt they were strongest and at their best. They were able to secure only one vote out of each three in the House, and, had the vote been on the bill itself, they would have lost at least five of these. They never had any strength professionally, politically or otherwise except the artificial strength with which crookedness can surround itself for a short time but it is always destroyed when the spot light of publicity is concentrated upon it. The victories in the House and Senate were not victories of any individual or any clique or of any group but they were victories for the people of Kentucky and for the medical profession. If any faults have developed in those who occupy official place in the profession, it is the profession's responsibility to clean house that it may continue to merit public confidence. They have given the physicians of the State the opportunity to conduct its public health affairs and the profession must live up the high standard which has been accepted by the people of the Commonwealth.

To the County and City Medical Societies, the Women's Clubs, the League of Women Voters and the Women's Joint Legislative Council, the Parent-Teacher's Association, the local organizations of the W. C. T. U., the county judges and fiscal courts, to both state-wide and local church organizations, the Chambers of Commerce, the Rotary, Kiwanis, Lions and other men's Clubs, the nursing organizations, to the whole citizenship of the State is this victory for the public weal due. "There is glory enough for all." It will be glory as long as we do our work for the improvement of the public health as effectively as in the past.

## YOUR DUES

If you have not already paid your dues to your County Secretary, it is important for you to remember that you become delinquent on April 1st.

Under the instructions given to the Medico-Legal Committee, any member who becomes delinquent at any time loses all medical defense for any suit brought for anything that has happened before April 1st. This is the third editorial on the subject and every member has been notified to this effect. This is a requirement not only of sound business but of law, and we have no option but to enforce it. After all, it will be a great advantage to the profession because it will mean that every member will get the *JOURNAL* throughout the year. If you have not paid your dues to the County Secretary, pay them today. The State dues are \$5.00 and to this should be added the county dues.

Kentucky has the best medical organization in the world. This has just been demonstrated and the public has shown its confidence in it. The time has come for us to close ranks and secure every reputable practicing physician as an active member. The public has shown its confidence in us. We must accept the responsibility and must work hard and together for public health and the common welfare.

---

## THE ANNUAL CONFERENCE FOR HEALTH OFFICERS

The Annual Conference for Health Officers will be held this year, beginning May 5th and closing on May 10th. The Committee, consisting of Dr. P. E. Blackerby, Dr. Annie S. Veech, Mrs. Maud Stritmatter and Dr. Irvin Linderberger, is busily arranging the program. It is the purpose to make this the most practical, as well as the most interesting, meeting which has yet been held. The high standard of these meetings for the past few years will make it difficult to make it more interesting and practical.

The *JOURNAL* is calling special attention to this Conference because of the increasing attendance of other physicians than the Health Officers. Last year some forty of our physicians took this really splendid practical post-graduate course and the grateful letters we have had from them during the year show how greatly they have valued it. The demonstrations, in regard to the treatment of syphilis and gonorrhea and the early diagnosis and management of tuberculosis, would have made the meeting last year worth while to any man in general practice and several

of them have already told us that they have increased their incomes by more than \$100 per month as a direct result of this course. This year, again, special emphasis will be put on the examination of babies and on the management and care of mothers.

During the week the Kentucky Conference of Social Workers, Kentucky Public Health Association and the Kentucky Tuberculosis Association will, also have their annual meetings, and those in attendance will have an opportunity of being present at all of them.

---

### CONFERENCE ON MEDICAL EDUCATION

The regular Mid-winter Conference on Medical Education was held in Chicago last month. It was more than usually interesting. There is always an appearance, which is unavoidable, that the programs for these Conferences are arranged to mend what has been done rather than to approach the real problems which need solution. Incidentally with this regular program this year many interesting facts were brought out. While the regular papers put especial emphasis on the importance of research work in our medical schools, there was a distinct undercurrent that found expression in a few of the discussions that this was being greatly overdone.

The first function of the medical school is unquestionably the training of young men as practitioners of the art and science of medicine. Through an overemphasis of research, it has developed that teachers are now selected more because of publications on original investigation they have made because of their ability as teachers. It was stated by one of the leading medical educators, himself an all-time professor in one of the fundamental branches in one of our great universities and a man who has investigated for the American Medical College Association practically every institution in the country, that, at the present time, the all-time professors were meeting classes less than two hundred hours a year. He very wisely stated, also, that it was possible to measure a man's teaching ability by the attendance of his classes and the character of the training which his students received, but that it was possible for every man to start research work and make occasional publications in the several journals devoted to this activity without anybody ever being able to evaluate it because practically nobody reads anything but the title of most of these

so-called researches. Many of them are useless repetitions of observations that get nowhere. This medical educator suggests that the number of students could be considerably increased if the all-time faculties devoted more of their time to teaching and less to research. There is no question but that research should be encouraged but it is absurd to require that every all-time man in a medical faculty do research work. The best positions in medical schools should unquestionably be given to the best teachers. The comparatively few men, who are discoverers, should be put in the endowed positions where they rarely come into contact with any undergraduate students.

It, also, developed that the demand for internes in the Class A hospitals is greatly in excess of the number of graduates. Serious proposals were advanced for the substitution for internes of lay clerks in addition to the laboratory and X-ray technicians and other subordinates now employed so that the demand for internes will be lessened. The Editor of the JOURNAL offered the suggestion that graduates in medicine be permitted to elect whether they spend their interne years as internes at hospitals or in general practice under the supervision of accredited preceptors in rural practice. This will enable these young men to find the joy of general practice amongst the country folks.

---

**Chronic Carbon Monoxid Poisoning:** As the chances for exposure to carbon monoxide are as great, Anfin Egdahl, Grand Forks, N. D. (Journal A. M. A., July 28, 1923), believes it would be well for the physician to keep in mind the possibility of chronic poisoning when a patient presents himself with ill defined symptoms which cannot be explained otherwise. Repeated exposures to carbon monoxid, but not in sufficient degree to cause acute poisoning, will cause symptoms similar to the results of fatigue, and can be explained by a lowered amount of oxygen in the blood. Just as a state of continued fatigue, so will a state of chronic carbon monoxid poisoning lower the resistance to various infections, or favor renewed activity of an old process. When there is a possibility of exposure to carbon monoxid, it would be well to make a blood test. By the use of various simple laboratory tests, it is possible to diagnose an early, or a pre-symptomatic stage of chronic poisoning and ward off the possibility of serious results.



## ORIGINAL ARTICLES

## INSULIN IN DIABETES\*

By VIRGIL E. SIMPSON and FREDERICK SPEIDEL, Louisville

ADVISABILITY OF HOSPITALIZATION OF ALL  
CASES DURING PERIOD OF GLUCOSE  
TOLERANCE DETERMINATION AND  
INSULIN DOSAGE ADJUSTMENT.

Since Insulin dosage or even Insulin indication depends wholly on an estimation of a given patient's requirement for sugar and an inquiry into his ability to utilize it as exhibited in his daily food, it is obvious that accurate control of the diet is a necessity. The most satisfactory way to achieve this end is to have the patient enter a Hospital where the facilities exist for the proper observation. By proper facilities we mean to imply control of the diet both as to quantity and variation, scales for weighing both food and patient, a competent dietitian or a trained nurse possessed of a satisfactory knowledge of dietetics, control of the physical activities of the patient, nurses familiar with manifestations of hypo-glycemia and measures for prompt relief and, finally, adequate laboratory facilities for blood and urine examinations. Many hospitals, at present, can not qualify for classification in such a category but as appreciation for the necessity for such essentials finds root in the profession the number will correspondingly increase.

Where a hospital does not maintain adequate laboratory facilities those of another in the community or the services of a privately conducted one may be made available by arrangement. It is both feasible and practical for a patient to be cared for in his home if a dietitian and qualified nurse be available and laboratory and other facilities mentioned can be marshalled for the patient's care, study and protection. The expense of this sort of arrangement precludes its very wide adoption but the point is emphasized that it may be done. It is not always necessary for a patient to spend the entire 24 hours of each day within the hospital or its grounds. Walks, rides, drives, even attendance to some demands of business or the home may be encompassed in the diabetic's day while under hospital supervision. In fact, we are inclined to the idea of having the patient indulge in such activities, physical and otherwise, as correspond closely to his normal method of living after Insulin dosage is be-

gun. It is apparent that if a diabetic, able to care for a part or all of his customary duties, be standardized to Insulin on a Basal Diet while hospitalized there must exist no little inaccuracy as to dosage after he returns home and resumes, perhaps, manual labor; his diet must be considerably readjusted both as to total caloric value and ratio of C. P. and F. Muscular activity increases every diabetic's sugar tolerance when translated in terms of carbohydrate utilization during a given period. It is unreservedly conceded that a patient may have Insulin dosage adjusted on a basis of a basal diet while in the hospital and have it readjusted to a maintenance diet after discharge but with equal absence of reservation is it stated that, at least, a part of the advance to a full maintenance diet, can be accomplished while hospitalized.

While in the hospital the diabetic should be instructed in food values and ratios, taught to weigh his food, prepare his menus, administer his Insulin, examine his urine qualitatively for sugar and be made familiar with early evidences of hypo-glycemia and how to handle these evidences. Under such a regimen none but the most indifferent could fail to acquire a familiarity with and the necessity for the details in the management of a condition of which Insulin is but one.

#### WHAT ARE INDICATIONS FOR INSULIN ADMINISTRATION?

There are three groups of diabetics about which there is no controversy concerning the use of Insulin:

- (a) The child diabetic.
- (b) The acidotic diabetic.
- (c) The moderately severe diabetic facing imperative surgery.

The greatest sentimental appeal is found in the juvenile cases. They have been so uniformly hopeless one feels impelled to say that their one redeeming feature was their brevity. If, with Insulin, these children can assimilate a normal diet and thus grow to manhood and womanhood to fill the places destiny assigns them, then, indeed has it repaid the workers who transformed a thing long visualized, into a life-lengthening reality. The earlier the diagnosis can be made the happier the results for then may the blight of under nutrition be lessened and the damage from continued ketosis be escaped. Delayed, life may be preserved but development of vital organs is hindered in varying degrees of insult. Starved adult tissues function at low ebb while undernourished juvenile tissues both function badly and fail to develop. Truly, "saving a little child and bring him to his own is a durned sight better business than loafing around the throne."

\*Delivered before the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.

TABLE 1

Case No. 2,299. Age 10 years. Duration 15 months. Height 133.7 Centimeters. Weight 24.1 Kilograms.

DATE 1923	DIET						URINE				Alveolar Air CO <sub>2</sub>	Net Weight (lbs.)	Insulin (units)	REMARKS					
	Carbohydrate	Protein	Fat	Calories	Total Glucose	Glucose Bal.	Fatty Acid	FA G	Vol. C. C.	Sp. gr.					SUGAR		Acetone	Diacetic Acid	Blood Sugar Pct.
															Pct.	Gms.			
May 24									Single Specimen	1025	xxxx		xxx	xxx		Day of admittance. Usual diet.			
May 25	42	29	39	625	62	29	48	0.77	1,660	1025	2.0	33	xxx	xxx	.40	53.5			
May 26	32	24	24	440	48	25	32	0.67	1,700	1025	1.35	23	xx	xx		Estimated sugar tolerance 23 grams.			
May 27	32	24	24	440	48	30	32	0.67	2,060	1015	.89	18	xx	xx		Basal diet 720 calories at 30 calories per Kilo.			
May 28	41	40	58	846	70	52	70	1.00	1,730	1015	1.00	17	x	x		Tolerance 28 grams. (Estimated)			
May 29	58	60	81	1,201	100	89	100	1.00	2,030	1008	.56	11	x	0		Maintenance diet 1,600 calories at 70 calories per Kilo.			
May 30	85	75	115	1,675	140	115	138	1.00	1,660	1020	1.56	25	x	0		Tolerance 45 grams. (Estimated)			
May 31	85	75	115	1,675	140	128	138	1.00	1,700	1012	.69	11	x	0		Up in chair.			
Jun 5	80	75	130	1,790	137	131	151	1.10	1,700	1008	.38	6	0	0		Walking grounds.			
Jun 10	80	75	130	1,790	137	133	151	1.10	2,300	1010	.20	4	0	0	.27				
Jun 11	80	75	130	1,790	137	137	151	1.10	2,450	1010	0	0	0	0		Tolerance 47 grams. (Estimated)			
Jun 16	74	75	188	2,288	137	137	204	1.48	1,460	1010	0	0	0	0	.19	Tolerance 79 grams. (Estimated)			

Table 1. Rather severe type, showing low sugar tolerance, obstinate ketonuria, high blood sugar and illustrating how the diet was balanced. After aglycosuria was attained the caloric value was raised from 1,790 calories to 2,288 by reducing the carbohydrates and raising the fats, keeping the glucose intake at 137 grams. Patient gained 7.25 pounds in 23 days.



The severely acidotic diabetic has, in Insulin been thrown the life line. To most physicians has come the realization of the limitation of his art and the inadequacy of science as the diabetic passes out through the portal of coma. While the moribund may not be saved by Insulin for the hair suspending the sword of Damocles has already snapped, but, for the others it adds to the hair a rope which may sustain its weight. In few diseases can a remedy be used with more confidence in its specific action than in Insulin for coma of diabetes.

diet, can function fairly well, who maintain a normal weight, whose sugar tolerance is not falling perceptibly and whose dietetic restrictions are not especially irksome—what shall be said of Insulin?

If a maintenance diet with adequate caloric value with an adjustment of the ration of fat to carbohydrate content within the limits of safety will keep the blood sugar at or near the upper level of normal limits the need for Insulin is probably not apparent in the light of our present knowledge of its mode of action.

TABLE 2

Case 2222.

DATE 1923	DIET								URINE						Blood Sugar Pct.	Alveolar Air CO <sub>2</sub>	Net Weight (lbs.)	Insulin (units)
	Carbohydrate	Protein	Fat	Calories	Total Glucose	Glucose Bal.	Fatty Acid	FA G	Vol. C. C.	Sp. gr.	SUGAR		Acetone	Diabetic Acid				
											Pct.	Gms.						
April 17..	12	40	31	487	38		46	1.2							.32		101.5	
April 18..	12	40	31	487	38	90.0	46	1.2	5,130	1025	2.5	128	xxxx	xxx	.20			
April 21..	40	19	39	587	54	41.4	44	0.8	2,520	1013	.5	12.6	xxx	xx			97.	10
April 22..	50	32	52	796	71	60.8	62	0.9	2,040	1010	.5	10.2	x	0		25	99.	15
April 23..	61	43	64	992	89	79.3	76	0.9	1,950	1010	.5	9.7	x	0	.18		101.5	21
April 24..	87	92	69	1,337	140	140	104	0.7	3,120	1007	Tr.	Tr.	x	0			102.5	45
April 25..	103	108	88	1,636	166	166	130	0.8	2,740	1007	0	0	x	0			104.	50
April 26..	117	101	88	1,664	176	176	126	0.7	3,000	1007	0	0	0	0			104	60
April 27..	88	102	99	1,651	149	149	136	0.9	2,580	1010	0	0	0	0			106	40
April 28..	69	97	110	1,654	130	130	145	1.1	3,420	1015	.5	17.1	0	0			105	40
April 29..	47	97	123	1,683	115	115	157	1.4	3,000	1013	Tr.	Tr.	0	0			106.5	30
April 30..	45	75	130	1,650	101	101	152	1.5	2,700	1014	0	0	0	0			105.5	25
May 1....	45	75	130	1,650	101	101	152	1.5	2,520	1010	0	0	0	0			106.5	23
May 3....	45	75	130	1,650	101	101	152	1.5	2,640	1010	0	0	0	0			107.	23

Table 2 shows progress of a case which entered the hospital with severe acidosis and mental confusion. Resumed work as a railroad switchman on a maintenance diet, July 1, weighing 128 lbs.

Necessary surgery has, hitherto, carried for the diabetic in addition to the usual hazards of a given procedure those of a low level of vitality incident to starvation and a high ketogenetic potentiality. In imperative emergency surgery Insulin administration coincident with the operation and continued during the period of repair not only prevents acidosis but makes possible a normal food intake and, hence, a speedier recovery. When the operation is more optional a period of Insulin administration prior to the operative procedure become a most highly satisfactory plan, the advantages of which are obvious.

Finally, in that large group of (d) mild type of diabetes who, on a properly adjusted

An approximate estimation of what per cent of this group of diabetics can thus carry on is not possible, now, for very few of them have been on a weighed diet with blood sugar findings over any considerable period. That there is a limit to this satisfactory state for a majority of these would seem incontrovertible as the clinical history shows a progressive tendency toward greater severity with ultimate exitus labelled in vital statistics records as Diabetes Mellitus. A certain proportion of them die of other causes some of which, at least, are consequential to a diabetic state. If, it is interesting to inquire, these diabetese were kept functioning at a higher level of

TABLE 3

Case No. 2044. Age 47. Weight 61.3 Kilograms.

DATE 1923	DIET							URINE						Net Weight (lbs.)	Blood Sugar Pct.	REMARKS
	Carbohydrate	Protein	Fat	Calories	Total Glucose	Glucose Bal.	FA G	Vol. C. C.	Sp. gr.	Sugar		Acetone	Diabetic Acid			
										Pct.						
July 17	85	60	113	1,597	130	130	1.00	1,200	1025	0	0	0	0	135	.16	On exercise
July 19	115	60	102	1,618	160	160	0.75	1,300	1022	0	0	0	0	134		
July 22	104	90	143	2,063	170	170	1.00	1,400	1018	0	0	0	0	135.5	.13	Walking several miles daily Maintenance diet of 50 Cal- ories per Kilo.
July 24	185	90	150	2,450	252	252	1.04	1,340	1018	0	0	0	0	135.5		
July 28	103	90	254	3,058	180	180	1.50	1,600	1016	0	0	0	0	135	.14	

There was no trouble in keeping this patient aglycosuric and at a safe blood sugar level on a properly balanced diet. Some doubt might be felt as to the diagnosis had not a sugar tolerance test showed blood sugar (fasting) 160 mg., 2nd hour, 280 mg., and 3rd hour 240 mg. per 100 cc. of blood; urine (fasting) negative for sugar, 2nd hour 1 per cent, 3rd hour 3 per cent. Weight Oct. 31, 1922 was 140 pounds while on admission to hospital, July 17, 1923, it was 135 pounds.

physiological activity through the maintenance of a satisfactory nutritional state would the vital statistics records tell a different story? Could the progressive downward tendency be checked? Would the number who die of acute infections be lessened? Would the terminal acidotic stages be reached? These interesting questions are now being accorded serious attention by those studying diabetic problems in the light of Insulin usage and the answer is surely forthcoming. Several years, however, must elapse before clinical observation accumulates the data out of which the answer must come and until then discussion must remain academic and reasoning directed, to an extent by analogy. It would seem conservative to direct attention to a few premises: Insulin is a product of normal biochemical activity; it is an essential factor in body metabolism to the extent that carbohydrates are necessary constituents of food; life can not be maintained beyond short periods where the supply has been artificially cut off; being a normal and necessary agency in sugar utilization its administration, artificially, to an individual with an insufficient normal production results in no deleterious effects when properly used; the diabetic suffers from defective production and, it would seem, that *deficiency* should be the criterion for Insulin administration, not the degree of deficiency. If this reasoning be sound then follows the conclusion that the need for Insulin is a relative matter resting on the degree of deficiency. In a given case with a sugar tolerance reduced to fifty per cent of normal contrasted with another having a sugar tolerance reduced to twenty-five

per cent the relative need for Insulin is twice as great as in the latter. There is deficiency, however, in each and the indication exists in each to the extent of his need. To give it to the one and withhold it from the other because that other is not quite so near death would scarcely seem sound therapeutic wisdom. It is probable that the idea that Insulin was of value only in a diabetic already *in extremis* found root in the desire of those responsible for its distribution during the early days of the clinical testing-period that the limited supply should be used in the severer cases because the need of the graver cases was greater and the supply was limited. With the production difficulties of the manufacturer ended the supply has now reached a status where every diabetic may have his requirement met. We would emphasize the statement that Insulin therapy is not curative therapy in the broad sense, a point which will be stressed more fully under the discussion of the mode of action of the agent. Viewing the subject from the standpoint of the diabetic himself, he has two objects in subjecting himself to treatment: (a) to live and (b) to live as nearly normally as possible. Heretofore dietary regulation was the only fruitful agency encompassing the first object and the second was necessarily sacrificed. While much was accomplished in added years the situation was invariably more satisfactory to the doctor than it could ever be to the patient. Semi-starvation, even as a fad, early loses its appeal while to settle down to a life-long siege offers small inducement to multiply those years. Being deprived of enjoying the normal diet of the normal indivi-



dual often bulked as large in dissatisfaction as the realization of inevitable death and was evidenced by recalcitrancy. The periodic carbohydrate debauches were not wholly the result of rebellion but the expression of a real hunger long denied. Insulin has been added to diet regulation and together, used intelligently, the diabetic is lifted nearer his two objectives—to live and to live normally.

METHODS OF DETERMINATION OF SUGAR TOLERANCE.

The term *sugar tolerance*, while not entirely scientific, has come to have a generally accepted meaning and a rather constant place in the nomenclature of things diabetic.

A normal individual has a certain sugar requirement and when exhibited as food can entirely utilize it; a diabetic individual, likewise, has a certain sugar requirement and can not entirely utilize it. The determination of the extent to which a patient can utilize his requirements for carbohydrates is spoken of as determination of sugar tolerance.

One or all of several methods of approach may be used in clinical work. The final answer reached by whatever method, however, must be considered but approximately correct for the time of determination. As, in health, the amount of sugar absorbed from a meal varies within wide limits so, in diabetes, is there a variation in the amount utilized by the body cells. But the tolerance can be determined closely enough for practical purposes including Insulin dosage.

We have found the following a satisfactory method of determining sugar tolerance:

Assuming an average case of Diabetes is admitted to the hospital for Insulin dosage

determination a specimen of blood is obtained for blood sugar examination before breakfast the morning after admission. A basal diet is ordered and weighed on preparation and each 24 hour urinary output collected and examined quantitatively for sugar excretion. In a few days the sugar loss by the kidneys daily will become fairly constant and the difference between this loss and the known sugar content of each day's food represents the sugar retained in the body. All of the retained sugar is not being utilized and a blood sugar determination is now made before breakfast. This blood sugar finding together with the renal excretion during the last few days of the observation period forms the basis for the determination of the sugar tolerance. If the patient should become aglycosuric after a few days of this basal diet the food is increased gradually to a maintenance diet or until glycosuria reappears. During observation on a Maintenance Diet moderate exercise should be encouraged.

Another plan is to arrange a series of Test Diets beginning with less than a Basal diet requirement and reduce the amount of food each day until the urine becomes sugar-free. Then increase the food daily in the direction of a maintenance diet until sugar reappears in the urine and the sugar intake on the last day of aglycosuria affords, with a fasting blood sugar, the basis for sugar tolerance determination. This method of determining sugar tolerance has the disadvantage of virtual starvation in all the severer types of cases, a plan popularized by Allen. This scheme had much merit before the advent of Insulin and no particular objection is offered to it today in the fairly vigorous group. But

TABLE 4

DATE 1923	DIET								URINE								Net Weight (lbs.)	Blood Sugar Pct.	Insulin (units)
	Carbohydrate	Protein	Fat	Calories	Total Glucose	Glucose bal.	Fatty Acid	FA $\frac{\text{G}}{\text{G}}$	Vol.	C. O.	Sp. gr.	SUGAR		Acetone	Diabetic				
												Pct.	Gms.						
Aug. 22.	63	33	83	1,131	90	63	90	1.00	1,980	1028	1.36	27	xx	x	99.	.42			
Aug. 23.	63	33	83	1,131	90	78	90	1.00	1,920	1015	0.66	12	x	0	99.5				
Aug. 24.	63	33	83	1,131	90	77	90	1.00	2,048	1011	0.64	13	x	0	101.				
Aug. 25.	54	50	74	1,082	90	81	90	1.00	2,048	1009	0.41	8	0	0	101.5				
Aug. 26.	59	40	79	1,107	90	84	90	1.00	1,728	1011	0.35	6	0	0	101.5	.36	10		
Aug. 29.	50	40	68	972	80	76	80	1.00	2,880	1008	0.18	4	0	0	102.		15		
Sept. 4.	59	47	106	1,378	90	90	117	1.30	1,920	1006	0	0	0	0	102.5	.27	20		

Patient weighing 45 Kilos., put a basal diet of approximately 25 calories per Kilo. The glucose balance for 4 days varied from 63 to 81 grams or an average of 74 grams with d urinary sugar loss of 15 grams daily. The blood sugar fell from 420 to 360 mg. per 100 cc. of blood; then insulin was started.

under nutrition is not now necessary except in that group of cases suffering from two-fold metabolic defect viz:—Obesity and diabetes. Joslin has arranged a series of test diets which are rather widely used. These were arranged in pre-Insulin days and while he now uses them he states that advances in dietetic treatment and Insulin demand a constant modification.

A third plan for sugar tolerance determination is that of placing the patient on a maintenance diet at the start and after a few days continuance for stabilizing the daily sugar loss, the urine sugar per 24 hours together with a fasting blood sugar are used to determine the tolerance.

The determination of daily heat production while at rest on a weighed diet, called basal metabolism, reached by analysis of foods metabolized is a time-consuming procedure not available for the usual clinical case. Such work is valuable as material on which to build a practical clinical procedure, and will not be further considered here.

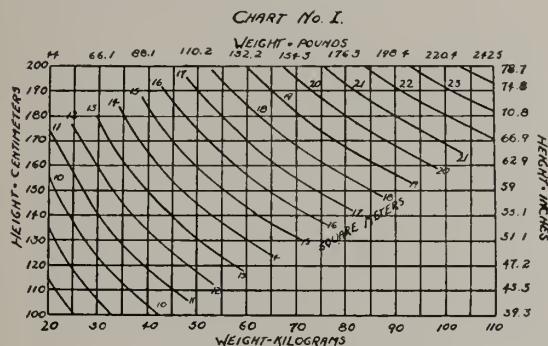
By the term *basal* diet used in considering the first method is meant a diet with a 24 hour caloric requirement for a patient at rest. This is determined by finding the surface area by the table of Aub and Dubois with calculations at 40 calories per square meter of surface area corrected for age and sex. This method of determining caloric requirement is simple and practical.

treatment when the real explanation lay in a developing nephritis as proved by sugar re-appearing when the diabetic condition grew worse. Such an error need not occur if blood sugar estimations are made.

#### HOW OFTEN AND WHEN SHOULD BLOOD SUGAR DETERMINATIONS BE MADE?

During the period of sugar tolerance and Insulin Dosage determination frequent blood sugars are desirable. During the early period of clinical testing of Insulin blood sugars were done not only daily but in a number of clinics were done even hourly. In no clinic where private patients were treated have we observed blood sugars done even daily during the past four months. We do not consider blood sugars during the period of hospitalization necessary for a safe and satisfactory care of the case. One done on admittance, a second after two or three days on a basal diet, a third at the time the patient becomes aglycosuric, a fourth after establishment of a maintenance diet and a final on discharge from the hospital is considered adequate. After discharge an occasional blood sugar should be done particularly if the diet must be increased or if the patient has remained aglycosuric for some time. Blood sugars are no inconsiderable item of expense. Urinalyses are easy to do and inexpensive and should be insisted on. Joslin thinks that not one in ten of his patients have blood sugars done once a month after going home. We doubt if even that percentage obtains in cases we have studied for physicians out of the city since we began using Insulin.

When should blood sugars be made is an interesting question. Some clinicians make them 4 hours after a meal, some two hours, while others do them on a fasting stomach, that is before breakfast when there has been a 12 to 14 hours fast. There are some good reasons for either of these choices and it would seem that it is, perhaps, of less importance *when* one has them done than it is that they should be done *uniformly*. If one blood sugar be done fasting then the succeeding ones should be done under the same conditions for proper comparative study. Our own practice is to have them done fasting. This would seem to give a more definite idea of the extent of ultimate utilization of a given 24 hour intake of sugar than is gained by making the determinations three or four hours after one meal. The latter plan it is admitted fixes the height to which the blood-sugar curve rises and helps determine, in a degree, the rapidity of utilization but it fails to establish the completeness of utilization of a 24 hour food intake at the end of that period. Certainly a blood sugar, done fasting, found



By Maintenance Diet is meant a diet with a 24 hour caloric value to meet the requirement of a patient taking accustomed exercise.

The point at which sugar begins to spill over in the urine determines the *renal threshold*. Below this point the kidney is able to hold back the sugar; this threshold has been determined to be about 170 mg. of sugar per 100 cc. of blood in normal subjects. The level varies somewhat in different individuals in health and is raised in nephritic conditions. Not a few cases have been thought to have been cured of their diabetes by some plan of



to be normal with a sugar-free urine for the entire preceding 24 hours on a normal diet makes the diagnosis of diabetes doubtful. Likewise, a fasting blood sugar reading plus the urine sugar loss must give a closer estimate of the completeness of sugar metabolism each preceding 24 hours in the known diabetic.

An interesting feature of blood sugar curves is the time of day when the peak of sugar content is reached. It would seem that it should occur some three or four hours after the heaviest meal was eaten yet, in the laboratory records we studied in Stengel's clinic the peak was reached in the afternoon and this in patients where the noon meal had not been the heaviest in sugar content.

#### METHODS OF INSULIN DOSAGE DETERMINATION

Insulin is indicated in a case which can not metabolize his maintenance diet and preserve a normal blood sugar and urine sugar free. It should not be given unless the food is weighed routinely, the glucose content known, the urinary loss determined and the sugar retained in the body ascertained. With these facts at hand the giving of Insulin may be considered.

The dosage is yet a tentative matter since the amount of sugar burned by a given amount of Insulin varies within one fairly well-developed limits. The basis for dosage is called a *unit* and is intended to mean one-third that amount of Insulin which will reduce the blood sugar of a fasting rabbit weighing two kilos to 45 mg. per 100 cc. of blood in 75% of tests. There is some lack of uniformity in blood sugar reduction in different rabbits, a satisfactory explanation for which has not yet been found. The same individualization is found in human subjects. The reason is not found in variation of different lots of Insulin nor in method of administration which would involve the question of absorption since the standardization tests are carried out by intravenous injections. It is a bio-chemical problem yet to be solved. The amount of glucose, then, which a unit of Insulin will burn varies from 1 to 2¾ gms. In our earlier work we gave Insulin on the basis of one unit for each 2¾ gms. of glucose lost by the kidney during each 24 hour period after standardizing the diet for a few days to secure a fairly constant loss. More recently we gave one unit for each 2 grams lost which shortens the hospitalization period. In the Toronto clinics, where one of us recently studied their records and cases, one unit is given for each 1¾ grams of sugar lost.

Our procedure in average cases now is to put the patient on a basal diet as already

explained and, after a fairly constant loss of sugar by the kidney is secured, start Insulin on a dosage of one unit for every 1½ grams of sugar lost. After freedom from ketonuria and glycosuria is accomplished a blood sugar determination is made and the diet is then rapidly advanced to maintenance requirements and Insulin correspondingly increased to care for the difference in the sugar content between the basal diet and the maintenance diet for a few days, during which time daily urinalysis of entire urine output is done, and another blood sugar study is made. The diet is then readjusted with reference to the fatty acid-glucose ratio. If the patient will take a higher fat content the carbo-hydrate content can be proportionately lowered and the Insulin dosage reduced accordingly.

Attention will be called to this balancing of diet content more in detail under the heading of Dietary Considerations.

CHART 2.

DIET NO.	CARBO-HYDRATE	PROTEIN	FAT	TOTAL GLUCOSE	FATTY ACID	FA G	CALORIES	CALORIES PER KILO.	INSULIN UNITS
221	115	60	102	160	120	0.75	1,618	27.0	50
231	85	60	113	130	130	1.00	1,597	26.6	35
242	63	60	122	110	138	1.25	1,590	26.5	25
254	52	60	136	100	150	1.50	1,682	28.0	20

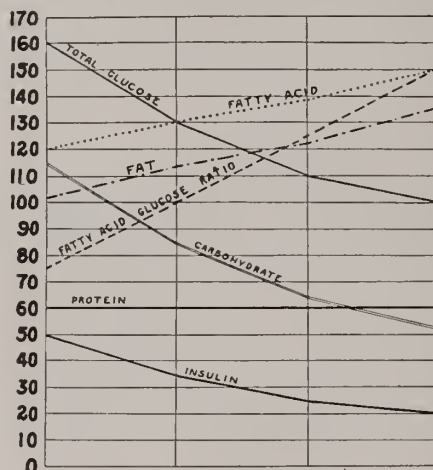


Chart shows how a patient's insulin dosage may be reduced by raising the fatty acid-glucose ratio of his diet,—his total calorie intake remaining constant.

The patient indicated in the above chart weighs 60 kilograms (132 pounds) and has a glucose tolerance of 60 grams per day. It is desired that his diet contain about 1,600 calories and 1 gram of protein per kilo, of body weight, i. e., 60 grams of protein.

A diet conforming to these conditions and having a fatty acid-glucose ratio of 0.75 will contain 160 grams of total glucose (See Diet No. 221). In order to metabolize the 100

grams of glucose in excess of his daily tolerance he will need 50 units of insulin (1 unit for 2 gms. of glucose). If his fatty acid-glucose ratio is raised to 1.00 he can receive his 1,600 calories in a diet which contains 130 grams of total glucose, (See Diet No. 231) or 70 grams in excess of his tolerance, thus requiring 35 units of insulin. On a further increase in his fatty acid-glucose ratio to 1.25, his diet will contain 110 grams of total glucose, (See Diet No. 242) necessitating 25 units of insulin for the metabolism of the excess of 50 grams of total glucose, and on a diet with a fatty acid-glucose ratio of 1.50 his insulin may be reduced to 20 units daily as this diet (See Diet No. 254) contains 100 grams of total glucose or only 40 grams in excess of his daily tolerance.

The Insulin is given subcutaneously. Some care should be observed in the technique of administration: neither intra-muscular nor intra-dermal injections being advised. The usual aseptic precautions are observed. We have not seen local infections follow any injections and the amount of discomfort and transitory irritation are negligible.

A tuberculin syringe is preferred but not essential. Its advantage when giving a small dosage is obvious; likewise when giving the higher concentration it is more preferable because of greater accuracy. Insulin is now marketed in two strengths: one in which a cc. contains 10 units and the other 20 units. They are labelled respectively, U 10 and U 20.

It is given about 20 minutes before eating. The effects last about 6 hours, the maximum action as evidenced by a reduction of blood sugar, is reached in 3 to 4 hours. The peak of blood sugar rise from a meal is reached in about the same time and it is desirable that the peak of each should be as nearly coincidental as possible. The number of doses daily is determined by the individual factors in the case. During dosage standardization or the period of desugarization we give a dose before each meal. In severe cases where large doses are necessary, it is advisable to continue this plan after the patient returns home. In the milder cases two doses daily are satisfactory during the earlier period of treatment to be reduced to one daily as the sugar tolerance of the patient rises. When the doses are reduced to two daily the diet is arranged so that the heaviest carbohydrate intake occurs at the meals before which Insulin is given. This is especially desirable in patients who are at work and take their noon meals away from home. In some clinics we have visited the dose given before the evening meal is made small or omitted

after the patient is discharged from the hospital to avoid hypoglycemia possibilities while asleep.

In the management of the severely acidotic cases with coma there is no time for determination of sugar tolerance or Insulin dosage. There is a premium on promptness and a boldness akin to that demanded of a surgeon in grave surgical conditions. The best plan, of procedure has, perhaps, not yet been worked out but the following has been used with success.

If unconscious, blood is obtained for sugar reading and  $\text{CO}_2$  combining power of the plasma and the bladder catheterized and urine obtained for examination. 40 to 50 grams of glucose in 300 to 500 cc. of sterile water is given intravenously and 40 to 50 units of Insulin injected in the vein. The same or smaller amounts of glucose and Insulin are given at the end of 4 hours. They should be repeated in such amounts and at such intervals as the symptoms warrant. The urine should be tested prior to each injection and sugar excretion by the kidney ascertained. Its disappearance calls for a blood sugar. The glycosuria is a valuable clinical guide to further glucose administration or reduction of Insulin if symptoms are disappearing.

If the patient can swallow, the glucose may be satisfactorily given per os. The rapidity with which it is absorbed from the stomach even when the patient is semi-conscious has been surprisingly demonstrated in hypoglycemic states; it seems to be taken up by the blood almost as readily as oxygen from the air cells of the lung.

#### MODE OF ACTION OF INSULIN AND WHAT MAY BE EXPECTED TERMINALLY

The action of Insulin on carbo-hydrate metabolism is a fundamental one and may be categorically listed:

(a) Blood sugar can be reduced to normal in hyperglycemia and normal sugar content can be reduced to hypoglycemia.

(b) Urine can be made and kept sugar-free.

(c) The respiratory quotient can be raised.

(d) The development of hyperglycemia from such conditions as puncture of the fourth ventricle, mechanical or  $\text{CO}_2$  asphyxia, ether narcosis and suprarenal injections.

(e) Total metabolism is materially increased.

(f) Nitrogen balance is re-established.

(g) Carbo-hydrate tolerance is raised.

(h) Ketonuria disappears.

(i) The deposit of glycogen in the liver is increased.



(j) The utilization of fat is accomplished.

(k) It affords a physiological rest to a crippled Pancreas.

This is a simple statement of effects easily demonstratable both experimentally and clinically. To undertake to explain the manner of such accomplishment is a more difficult task, and while something is known more yet belongs to the realm of the speculative. Banting's work did not close the chapter on sugar metabolism rather it furnished a key to unlock the door to a chamber of mysteries.

That it reduces blood sugar is known but how does it remove the glucose from the blood? Does it stimulate glycolysis? If so, does it do so by stimulation of enzymotic ferments of body cells resulting in increased breaking down the sugar into carbonic acid and water? Or does it combine with glucose in the blood effecting changes in alpha, beta, and gamma glucose and thus transformed becoming utilizable? Insulin added to blood *in vitro* does not increase normal glycolysis but in the animal organism it does increase glucose combustion. The glycolytic power of diabetic blood is lower than that of normal blood. Normal blood incubated at 37 C loses more than 200 mg. of glucose per 24 hours while diabetes blood loses but little more than 100 mg. Blood glycolysis is effected chiefly by the leucocytes and these cells are known to contain oxidases. Does Insulin augment the activity of leucocyte oxidase by stimulation to greater activity in formation or does it link the cell oxidase to the sugar molecule as an amboceptor in proper sugar metabolism? Or, does it play the role of a complement? Is the product of blood glycolysis available for immediate use by the body cells without further digestion or does Insulin activate the tissue cells oxidizing ferments as a hormone, as well as activating blood cells? Is diabetes a condition the result of deficiency in power, or amount of oxidizing ferments in all body tissue cells and the glycolytic power of the blood merely an index to such deficiency, or is it due to an inability of the pancreas to form an adequate amount of Insulin?

Without committing ourselves to any theory definitely, the following line of reasoning seems logical and supported, at least in part, by facts: Insulin is not a ferment but a hormone; that diabetic blood contains less glycolytic ferment than normal blood; that in diabetic blood the corpuscular sugar is decreased more than the plasma content; that Insulin activates blood glycolysis and, perhaps, also tissue glycolysis; that carbohydrate metabolism is not an oxidative but a digestive process; and, finally, that the transformation of glucose into lactic acid is a pre-

liminary step in the process of digestion and that the tissue cells take up the ultimate utilization where the blood cells leave off.

The question does Insulin cure diabetes is on the lips of every diabetic. Even physicians are yet asking us that question despite definite and repeated statements of both its discoverers and manufacturers and emphasized by every clinician who enjoyed the privilege of collaborating with the Toronto group during the clinical testing period.

Diabetes is a disease affecting metabolism in the direction of deficiency. The internal secretion of the pancreas is lessened and carbohydrate metabolism suffers a diminished activity. Insulin is given artificially to supplement the deficient production naturally. The immediate results of such administration have already been stated and the discussion here concerns the ultimate results. One of the objects of treatment before the advent of Insulin was to afford rest to the damaged islands of Langerhans and was best accomplished by a proper diet. While this gave the maximum amount of rest to the islands it, unfortunately, ultimately resulted in undernutrition. With Insulin this rest may be afforded and nutritional needs met. In that sense and to that extent it is specific. It is not specific in the sense that it will remove the etiological factor or factors causing the damage to the islands. But by maintaining a normal nutritional state the level of vitality is raised and morbid agencies can be more satisfactorily met. As general health improves the islands may likewise share the benefit and while regeneration of cells completely destroyed may not be expected restoration to functioning activity of those damaged in varying degrees short of death is not an unreasonable expectation. In addition, is it too much to indulge in the belief that by serving as a buffer for those islands overworked but not diseased, permitting physiological rest, as it were, their ability to eventually rise to performance of increased demand may be assured? If this accomplishment be within the limits of physiological possibilities then Insulin may come to be considered something more than a deficiency remedy.

The question as to the maintenance of a normal blood sugar under Insulin treatment becomes interesting and perhaps important. A blood sugar above normal affords a protection against hypoglycemia and permits economy of Insulin. If the latter be a factor it is unfortunate but only rarely need it be a deciding factor; the former need scarcely be feared if reasonable care in accuracy of dosage and weighing of food be observed. Hyperglycemia is, after all, but a relative protection since errors in diet and dosage or a

letting down of absorption levels from the digestive system can not be confined to narrow margins always. A nurse in attendance on one of our cases gave 30 units daily for a few days instead of 60 as ordered; the error could have been in the other direction as easily. A given meal may be entirely undigested and absorbed leaving the Insulin free to burn the blood sugar to a low level.

These are elements of uncertainty the physician and the diabetic must accept as the surgeon and his patient must assume joint responsibility for the hazards of an operation. Hyperglycemia is responsible, directly or otherwise, for some of the degenerative sequelae of diabetes. Nature gauged the sugar concentration of the blood between the levels of 80 and 120 mg. per 100 cc. of blood and cells constantly bathed in a medium of higher concentration will, in proportion to that increase suffer in health and function.

Another reason for keeping the blood sugar within normal limits is that an ascending blood sugar stimulates the pancreas to greater activity thus preventing the physiological rest we believe is an important factor in attempting to raise the level of sugar tolerance. It is this degree of rest to the islet tissue by

the use of Insulin that its discontinuance in mild cases becomes possible. Table 5 shows this point very satisfactorily.

An interesting variation in sugar utilization is observed in infection. Where gradual recovery from the infectious process occurs but little difficulty of adjustment of Insulin dosage is experienced but abrupt removal of this factor seems to permit the pancreatic function to rise, and sometimes quickly as was the case covered by Table (6) where a gangrenous leg was amputated.

The diet sugar taken in this case was subject to no change after the operation which occurred 5 hours after supper and the usual breakfast was taken and enjoyed the following morning.

#### DIETARY CONSIDERATIONS

It will be obvious from the foregoing facts that careful dietary management is a highly important auxiliary to the safe and effective administration of Insulin. There are three essential factors which must be considered in planning any well balanced diet: 1st, the protein requirement; 2d, the total caloric requirement, and 3d, the fatty acid glucose ratio.

#### PROTEIN REQUIREMENT

Carbohydrates and fats furnish energy for immediate use, and fill the storage spaces with fuel for subsequent use but protein is the material of which the machine is made, and it is essential that it be present in the diet in a sufficient quantity to repair the wear and tear resulting from continual activity. Inasmuch as protein is the only one of the three primary foodstuffs which contain nitrogen, the protein requirement may be determined by adjusting the nitrogen intake in the food to the nitrogen output as found by analysis of the excreta.

An individual who is receiving his protein requirement is in nitrogen equilibrium. Fortunately, it is not necessary for us to determine each patient's protein requirement by the above method, as determinations enough of this nature have been made to indicate that an average adult at complete rest needs 0.66 grams of protein for each Kilogram of body weight (or about 1-3 gram per lb. of body weight.) The amount of protein necessary to maintain the body in a state of proper repair naturally becomes greater as activity increases; thus an individual doing light muscular work requires 1 gram of protein per kilogram of body weight while one doing harder work needs 1.5 grams.

In children the protein requirement is considerably greater, for in addition to protein for replacement of worn out tissues, there must be supplied an amount sufficient for

TABLE 5

DATE, 1923	Total Glucose in Diet	Sugar in Urine	Units of Insulin	Glucose Metabolized by Insulin 1.5 Gm. per Unit.	Glucose Tolerance
April 21.....	118	11.4	0		106.6
April 22.....	57	11.1	5	7.5	38.4
April 23.....	71	0	10	15.0	56.0
April 24.....	142	Trace	20	30.0	112.0
April 25.....	156	0	25	37.5	118.5
April 26.....	168	0	30	45.0	123.0
April 27.....	149	0	20	30.0	119.0
April 28.....	152	0	16	24.0	128.0
April 29.....	152	Trace	20	30.0	122.0
April 30.....	121	0	10	15.0	106.0
May 1.....	121	0	9	13.5	107.5
May 3.....	131	0	9	13.5	117.5
May 5.....	144	0	9	13.5	130.5
May 9.....	155	0	8	12.0	143.0
May 16.....	157	0	7	10.5	146.5

Table 5 shows a patient's glucose tolerance increased while using insulin. This increased continued until at the present time he is taking 157 grams of sugar daily, has taken no insulin for more than a month and remains sugar free.



TABLE 6

DATE 1923	URINE					DIET								REMARKS			
	Vol. C. C.	Sp. Gr.	Albumen	Acetone	Diabetic Acid	SUGAR		Carbohydrate	Protein	Fat	Calories	Total Glucose	Glucose Bal.		FA G		
						Pct.	Gms.										
Aug. 22	847	1030	xxx	xxx	xxx	5.3	44.8	86	40	112	1512	120	75.	1.00	39	XXX	Bedridden
Aug. 23	1520	1025	xxx	xxx	xxx	4.7	71.4	86	40	112	1512	120	48.6	1.00		XXXV	Amputation of leg
Aug. 26	850	1028	xx	x	x	4.3	36.5	86	40	112	1512	120	83.5	1.00	24	LX	
Aug. 27	1375	1031	xx	xx	xx	4.7	64.6	86	40	112	1512	190	125.0	1.00		LXX	
Aug. 30	1500	1015	x	neg.	neg.	0	0	105	41	79	1295	136	136	0.66	16	XL	Up in chair
Sept. 4	1890	1010	x	neg.	neg.	0	0	60	60	153	1857	110	110			XXXV	
Sept. 9	1470	1006	x	neg.	neg.	0	0	60	108	180	2284	140	140	1.50	15	XXV	Discharged from hospital

Case of Diabetic Gangrene of foot and leg on admission; septic; temperature 102; delirious. Sugar loss day before amputation was 36.5 gms. on 120 gms. intake. Third day after operation, no sugar loss on 136 gms. intake and 15 units less on Insulin.

normal growth. A child's minimum protein requirement at rest is 1 gram per Kilogram of body weight. A rapidly growing child who is also very active, may need as high as 3 or 4 grams per Kilogram of body weight, but usually 2 to 3 grams per Kilo, is found to be adequate.

It must also be borne in mind that an emaciated adult is in much the same situation with regard to protein requirement as is a child, in that, he will temporarily need more protein than his activity alone requires.

It is therefore advisable, in the case of emaciated adults and also those who are obese, to base their protein requirement on their ideal weight calculated from their height and chest girth, *vide infra*, rather than on their actual weight. And in the case of emaciated or obese children the protein of the diet should be adjusted to the weight of a normally constituted child of corresponding age.

TOTAL CALORIC REQUIREMENT

When a normal individual, who has not partaken of food for the previous 12 or 18 hours, lies in bed at complete rest in a comfortable temperature, his energy output is reduced to a minimum. This energy is expended to maintain circulation, respiration, peristalsis, muscle tonus, body temperature and other vegetable functions. It is expressed in terms of Calories and is called the basal metabolism. A diet which is just sufficient to meet the caloric requirement of the basal metabolism is called a basal diet and theoretically should keep a normal individual in complete physiological equilibrium while at rest.

Certain diseases as exophthalmic goiter, cause a marked increase in the basal metabolism while others such as myxedema cause a marked decrease, and although a diabetic cannot be regarded as a normal individual, it is generally conceded that diabetes, of itself, causes no deviation from normal in the basal metabolism. We need not subject each patient to basal metabolism studies in order to plan his basal diet. It is sufficiently accurate to calculate his basal requirement from his height and weight, or more correctly, from his body surface, for Aub and Dubois have shown that the basal caloric output is a function of the area of the individual and amounts to about 40 calories per square meter of body surface per hour.

When an Aub and Dubois chart is not available the basal diet may be approximated by giving 25 calories for each Kilogram of body weight.

This will be fairly accurate for persons of normal habitus but will not hold good for the obese or the emaciated. Under either of the latter conditions the ideal weight may be cal-

culated by Bornhardt's formula, and this figure used for determining the basal diet, Bornhardt's formula is as follows:

$$\frac{\text{Weight (in Kilograms)} \times \text{Height (in Cm.)} \times \text{Chest girth (in Cm.)}}{240}$$

When a patient walks about, exercises or performs work, his energy output greatly increases and he consequently needs more food; 30 to 35 calories per Kilogram of body weight are required for mild muscular activity and 40 to 50 calories per Kilo for heavier work.

The total calories required by children in a state of normal activity varies with age, being greatest from birth to one year, when, 100 calories per Kilo are required. At 3 years 90 calories per Kilo are required, from 6 to 15 years 80 calories and at 18 years, about 60 calories.

#### FATTY ACID-GLUCOSE RATIO

Having arrived at the proper amount of protein to be included in the diet and the total energy to be contained therein in terms of calories, the next problem for consideration is the relative amounts of carbohydrate and fat to be included so as to make up the total energy desired and render the diet palatable on the one hand and keep the patient free from acidosis on the other.

Quoting Woodyatt:

"There is, for any individual at any given time, a definite ratio between the quantity of glucose oxidizing in the body and the maximum quantity of fatty acids that can be oxidized at the same time, without the appearance of abnormal amounts of the acetone bodies."

He has shown that the available glucose of a diet consists of all the carbohydrate, 58 per cent. of the protein and 10 per cent of the fat.

This may be expressed:  $G = C + .58P + .1F$ .

For example in a diet consisting of: Carbohydrates, 72 gms., protein 100 gms., fat 199 gms., the glucose will amount to  $72 + 58 + 20 = 150$  gms.

Similarly in a diet (see diet No. 125) consisting of: Carbohydrates 50 gms., protein 40 gms., fat 68 gms. the glucose will amount to  $50 + 23 + 7 = 80$  gms. The total glucose in any diet may thus be determined.

It has also been determined that the fatty acids available from a food combination consist of 46 per cent of the protein and 90 per cent of the fat.

This may be expressed:  $FA = .46P + .9F$ .

For example in the first diet cited above consisting of, carbohydrate 72 gms., protein 100 gms., and fat 199 gms., the fatty acids

would be,  $46 + 179 = 225$  gms. And in the second diet of carbohydrate 50 gms., protein 40 gms., and fat 68 gms., the fatty acids would be  $18 + 62 = 80$  gms.

The next important question confronting us is: What relationship between the amount of glucose in any diet is compatible with freedom from acidosis?

Woodyatt has concluded that in general when the total fatty acids divided by the total glucose equals 1.5 we have reached a point beyond which it is not safe to go except with extreme caution. This conclusion is based on extensive clinical observation. Shaffer, working in the laboratory has shown that the theoretical danger point is somewhat higher than this, consequently the factor, 1.5 leaves a margin of safety. This factor is called the fatty acid-glucose ratio, and is expressed:

$$\frac{FA}{G} = \frac{.46P + .9F}{C + .58P + .1F}$$

Substituting the values in the first diet given above we will have,

$$\frac{FA}{G} = \frac{46 + 179}{72 + 58 + 20} = \frac{225}{150} = 1.5$$

Therefore this diet has a fatty acid glucose ratio of 1.5 which approaches the upper limit of safety.

Substituting the values in the second diet we have,

$$\frac{FA}{G} = \frac{18 + 62}{50 + 23 + 7} = \frac{80}{80} = 1.00$$

or a fatty acid glucose ratio of 1.00 which is well within safe limits.

The practical application of the above facts is, that to furnish a given number of calories, the higher the fatty acid glucose ratio of the diet the lower the total glucose will be. And of course the lower the total glucose, the smaller the dose of insulin necessary to maintain the urine sugar free. This point may be illustrated by the accompanying chart: (Chart 2).

#### USE OF DIET TABLES

When it is recalled that one unit of Insulin will metabolize approximately 2 grams of glucose, the importance of determining just how much glucose is available in any diet, becomes apparent.

In order to obviate the necessity of making these time consuming and laborious computations at the bedside each time a diet is to be altered, we have prepared a series of tables such as those shown in Table 7.

These tables have been found to greatly expedite and facilitate the management of these cases. (Table 7.)



TABLE 7  
Diet for a 60 Kilograms (132 pound) Patient.

Protein, 0.66 gms. per Kilo. of body weight.									Protein, 1.00 gm. per Kilo. of Body weight.								
Fatty acid-Glucose Ratio, 0.75									Fatty acid-Glucose Ratio, 0.75								
Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.	Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.
105	7	40	5	30	23	0.75	233	3.9	209	5	60	3	40	30	0.75	287	4.8
106	16	40	13	40	30	"	341	5.7	210	14	60	11	50	38	"	395	6.6
107	25	40	21	50	38	"	449	7.5	211	23	60	19	60	45	"	503	8.4
108	34	40	29	60	45	"	557	9.3	212	32	60	27	70	53	"	611	10.2
109	43	40	38	70	53	"	674	11.2	213	41	60	35	80	60	"	719	12.0
110	52	40	46	80	60	"	782	13.0	214	50	60	44	90	68	"	836	13.9
111	61	40	54	90	68	"	890	14.8	215	59	60	52	100	75	"	944	15.7
112	70	40	62	100	75	"	998	16.6	216	69	60	60	110	83	"	1,056	17.6
113	79	40	71	110	83	"	1,115	18.6	217	78	60	68	120	90	"	1,164	19.4
114	88	40	79	120	90	"	1,223	20.4	218	87	60	77	130	98	"	1,281	21.4
115	97	40	87	130	98	"	1,331	22.2	219	96	60	85	140	105	"	1,389	23.2
116	107	40	95	140	105	"	1,443	24.1	220	105	60	93	150	113	"	1,497	25.0
117	116	40	104	150	113	"	1,560	26.0	221	115	60	102	160	120	"	1,618	27.0
Fatty acid-Glucose Ratio, 1.00									Fatty acid-Glucose Ratio, 1.00								
Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.	Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.
118	5	40	13	30	30	1.00	297	5.0	222	4	60	14	40	40	1.00	382	6.4
119	14	40	24	40	40	"	432	7.2	223	13	60	25	50	50	"	517	8.6
120	23	40	35	50	50	"	567	9.5	224	22	60	36	60	60	"	652	10.9
121	32	40	46	60	60	"	702	11.7	225	31	60	47	70	70	"	787	13.1
122	41	40	57	70	70	"	837	13.7	226	40	60	58	80	80	"	922	15.4
123	50	40	68	80	80	"	972	16.2	227	49	60	69	90	90	"	1,057	17.6
124	59	40	79	90	90	"	1,107	18.5	228	58	60	80	100	100	"	1,192	19.9
125	68	40	90	100	100	"	1,242	20.7	229	67	60	91	110	110	"	1,327	22.1
126	77	40	101	110	110	"	1,377	23.0	230	76	60	102	120	120	"	1,462	24.4
127	86	40	112	120	120	"	1,512	25.2	231	85	60	113	130	130	"	1,597	26.6
128	95	40	123	130	130	"	1,647	27.5	232	94	60	124	140	140	"	1,732	28.9
129	103	40	135	140	140	"	1,787	29.8	233	103	60	135	150	150	"	1,867	31.1
130	112	40	146	150	150	"	1,922	32.0	234	111	60	147	160	160	"	2,007	33.5
Fatty acid-Glucose Ratio, 1.25									Fatty acid-Glucose Ratio, 1.25								
Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.	Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.
131	4	40	21	30	38	1.25	365	6.1	235	3	60	24	40	50	1.25	468	7.8
132	13	40	35	40	50	"	527	8.8	236	12	60	38	50	63	"	630	10.5
133	22	40	49	50	63	"	689	11.5	237	20	60	52	60	75	"	788	13.1
134	31	40	63	60	75	"	851	14.2	238	29	60	66	70	88	"	950	15.8
135	39	40	77	70	88	"	1,009	16.8	239	37	60	80	80	100	"	1,108	18.5
136	48	40	91	80	100	"	1,171	19.5	240	46	60	94	90	113	"	1,270	21.2
137	57	40	105	90	113	"	1,333	22.2	241	54	60	108	100	125	"	1,428	23.8
138	65	40	119	100	125	"	1,491	24.9	242	63	60	122	110	138	"	1,590	26.5
139	74	40	133	110	138	"	1,653	27.6	243	71	60	136	120	150	"	1,748	29.1
140	83	40	147	120	150	"	1,815	30.3	244	80	60	150	130	163	"	1,910	31.8
141	92	40	161	130	163	"	1,977	33.0	245	88	60	164	140	175	"	2,078	34.6
142	100	40	174	140	175	"	2,126	35.4	246	97	60	178	150	188	"	2,230	37.2
143	109	40	188	150	188	"	2,288	38.1	247	106	60	191	160	200	"	2,383	39.7
Fatty acid-Glucose Ratio, 1.50									Fatty acid-Glucose Ratio, 1.50								
Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.	Diet No.	Carbo-hydrate	Pro-tein	Fat	Total Glucose	Fatty Acid	FA G	Calories	Calories per Kil.
144	4	40	29	30	45	1.50	437	7.3	248	2	60	36	40	60	1.50	572	9.5
145	12	40	46	40	60	"	622	10.4	249	10	60	52	50	75	"	748	12.5
146	20	40	63	50	75	"	807	13.5	250	18	60	69	60	90	"	933	15.6
147	29	40	80	60	90	"	996	16.6	251	26	60	86	70	105	"	1,118	18.6
148	37	40	96	70	105	"	1,172	19.5	252	35	60	103	80	120	"	1,307	21.8
149	45	40	113	80	120	"	1,357	22.6	253	43	60	119	90	135	"	1,483	24.7
150	54	40	129	90	135	"	1,537	25.6	254	52	60	136	100	150	"	1,682	28.0
151	62	40	146	100	150	"	1,722	28.7	255	60	60	153	110	165	"	1,857	31.0
152	70	40	163	110	165	"	1,907	31.8	256	68	60	169	120	180	"	2,033	33.9
153	79	40	180	120	180	"	2,096	34.9	257	77	60	186	130	195	"	2,222	37.0
154	87	40	196	130	195	"	2,272	37.9	258	85	60	203	140	210	"	2,407	40.1
155	96	40	213	140	210	"	2,461	41.0	259	93	60	220	150	225	"	2,592	43.2
156	104	40	229	150	225	"	2,637	44.0	260	102	60	236	160	240	"	2,772	46.2

As one example of the use of the tables the following may be cited: A patient weighing 60 Kilograms (135 pounds) was put to bed and given .66 gms. protein per Kilo. of body weight (or 40 gms. of protein) and 1,443 calories, which was estimated to be his basal diet.

This is diet 116 and will be found to have a fatty acid-glucose ratio of 0.75 and contain 140 grams of glucose.

After several days on this diet he became sugar free. When the diet was increased by 10 grams of glucose (diet 11)) he showed

sugar. His daily tolerance therefore was 140 grams of glucose.

Now the question arises: Can this man be given a diet containing 140 grams of glucose with a safe acid-glucose ratio and containing a sufficient number of calories to permit him to do fairly heavy work, without losing weight or having sugar in his urine and without any insulin?

The answer may be found by referring to diet 258 which contains 140 grams of glucose, has fatty acid-glucose ratio of 1.5 and total calories of 2,407 or 40.1 calories per Kilo of body weight. This diet contains Carbohydrate 85 gms., Protein 60 gms. (1 gm. per Kilo. of body weight), and fat 203 grams, which is a maintenance diet for a 60 Kilo-gram man at work.

The set of tables that we have been using covers the necessities of a wide range of patients. Table 1 consists of diets for a 20 Kilo-gram (44 lb.) child; they have a protein content of 1 gm. per Kilo (20 gms.) and a fatty acid-glucose ratio of 0.75. Table 132 is for a 100 Kilogram (220 pound) patient, and contain 1.5 gms. protein per Kilo (150 gms.) with a fatty acid-glucose ratio of 1.5.

On each table there is a series of 13 diets and it will be observed that each diet differs from those adjacent to it by 10 grams of total glucose, the protein remaining the same. This makes it possible to increase or decrease the diet definitely and rationally and is a great help in determining the glucose tolerance and in establishing the insulin dosage and the maintenance diet.

A SIMPLE METHOD OF CALCULATING DIETS

In the absence of tables of this kind the diet of course must be computed at the bed side with due regard to all the considerations which have been mentioned. The formulas of Woodyatt may be used and have been used in preparing these tables but for a more simple method the following is suggested. First decide on the amount of protein the patient is to have, second decide his total caloric requirement, the carbohydrate in the diet may be ascertained by subtracting from the total calories, 10 times the protein and dividing the result by 20. This may be expressed:

C= Cal.-10P  
20

To ascertain the fats, add the carbohydrates and protein together, multiply by 4 subtract this figure from the total calories and divide the difference by 9. Thus:

F = 4 (C+P)  
9

Diets calculated in this manner have a fatty acid-glucose ratio of 1.4 to 1.5 which is fairly high in fat but well within safe limits.

For example, consider a patient to whom it is desired to give a diet containing 90 grams of protein and 2700 calories. The carbohydrate and fat in the diet are determined as follows:

Carbohydrate= 2700-900 = 1800  
20 20  
=90 gms., Fat= 2700-4 (90 + 90) = 1980  
9 9  
=220 gms.

The diet then would consist of Carbohydrate 90 grams, protein 90 grams and fat 220 grams.

The fatty acid glucose ratio of this diet would be:

FA 41+198 = 239  
G 90+52+22 164 = 1.46

There still remains to be considered the very important subject to the patient at least of converting carbohydrate, protein and fat into terms of bacon and eggs, bread and butter, milk, vegetables, etc.

The following table of food values will be found to meet the necessities of this part of the work with a sufficient degree of accuracy.

The diet blank we use is shown here filled out for a 24 hour food supply. With the total amount of C., P. and F., indicated the nurse can soon acquire sufficient knowledge to list the individual articles of diet for each meal.

DIET 246

Fatty Acid		188						
Glucose		150		1.25				
FOOD		Breakfast	Lunch	Dinner	Total Grams	Carbohydrate	Protein	Fat
5	pct. Vegetables.....	120	120	240	8	4		
10	pct. Vegetables.....							
15	pct. Vegetables.....							
20	pct. Vegetables.....							
5	pct. Fruits.....	150		150	5			
10	pct. Fruits.....							
Brazil Nuts, Pecans.....								
Almonds, Eng. Walnuts..								
Oatmeal (dry weight)....		30		30	20	5		
Shredded Wh. Biscuit...								
Uneeda Biscuit.....								
White Bread.....		30	30	90	54	9		
Whole Wheat Bread.....								
Cream (20 pct.).....		100	100	300	10	10	60	
Whole Milk.....								
Skimmed Milk.....								
Eggs .....		two		two	12	12		
Butter.....		20	20	60		50		
American Cheese.....								
Cottage Cheese.....								
Bacon.....		10		14	24	4	12	
Meat (lean).....			60	60		16	16	
Fish.....								
Chicken.....								
Oysters or Clams.....								
Olive Oil.....			16	16	32		32	
Ripe Olives.....								
Sugar.....		cup	cup	cup				
Coffee or Tea.....		cup	cup	cup				
Total Grams.....					97	60	178	
Calories per Gm.....					4	4	9	
Total Calories.....					388	240	1602	



TABLE 8  
TABLE OF FOOD VALUES

FOOD	Total Grams	Carbo-hydrate	Pro-tein	Fat
5 pct. Vegetables.....	30	1	0.5	
10 pct. Vegetables.....	30	2	0.5	
15 pct. Vegetables.....	30	4	1	
20 pct. Vegetables.....	30	5	1	
5 pct. Fruits.....	30	1		
10 pct. Fruits.....	30	2		
Brazil nuts and pecans.....	30	2	5	20
Almonds and Eng. Walnuts.....	30	4	5	18
Oatmeal (dry weight).....	30	20	5	2
Shredded wheat biscuit.....	30	23	3	
Uneda Biscuit.....	30	20	3	2
White Bread.....	30	18	3	
Whole wheat bread.....	30	15	3	
Cream (20 pct.).....	30	1	1	6
Whole milk.....	30	1.5	1	1
Skimmed milk.....	30	1.5	1	
Eggs.....	One		6	6
Butter.....	30			25
American cheese.....	30		8	11
Cottage cheese.....	30	1	6	1
Bacon.....	30		5	15
Meat.....	30		8	5
Fish.....	30		6	
Chicken.....	30		8	3
Oysters or clams.....	Six	4	6	1
Olive oil.....	30			30
Ripe Olives.....	30	1	1	6
Sugar.....	30	30		

## SUMMARY

1. This paper was prepared along lines suggested by an intimate knowledge of the needs of its audience and the limitations of the program. Many interesting avenues of inquiry have necessarily been denied study. The endeavor to make the subject practical rather than ultra scientific has been the aim of its authors.

2. The necessity for hospitalization has been emphasized.

3. The value of Insulin in mild cases of diabetes has been discussed and the opinion expressed that gravitation into the severer forms may be lessened or obviated by its use.

4. Several methods for determination of sugar tolerance are presented with their advantages and disadvantages.

5. The determination of Insulin dosage is outlined and reasons for individual variations noted.

6. The frequency of blood sugar determinations considered necessary for satisfactory clinical work is stated to be within the scope of a practical procedure.

7. The mode of action of Insulin is explained to the extent of our present knowledge and the ultimate results that may be reasonably hoped for are stated somewhat dogmatically.

8. The value of an intimate knowledge by the physician of dietetics is emphasized, the effort to disillusion any who may think Insulin relieves the profession of dietary considerations is made and a discussion showing how diets may be handled in a practical manner with a minimum loss of time by the physician is offered for consideration.

We acknowledge our indebtedness to the Insulin Committee of the University of Toronto for the privilege of using Insulin during the period of experimental clinical study as representatives of the Department of Therapeutics of the Medical School of the University of Louisville. It was deemed a rare privilege to collaborate with the selected group of clinicians studying Insulin during this interesting stage of its development.

The preparation used in our studies was Insulin—Lilly, manufactured by Eli Lilly & Co., of Indianapolis, Indiana. The courtesies extended by them are acknowledged with appreciation.

We are also indebted to Misses Aldrich, Gillespie and Kloster of the Jewish Hospital, to Misses Rectanus, Walker and Whitcomb of the Norton Infirmary and to Drs. Allen of the Louisville Research Laboratory for their assistance and co-operation.

## REFERENCES

1. Allen, F. M., Stillman, E., & Fitz, R. Total Dietary Regulation in the Treatment of Diabetes. Monographs, Rockefeller Inst. for Med. Res. No. 11.
2. J. A. M. A. page 1176, yr. 1922. Internal Pancreas Function. J. M. Allen.
3. Banting, Best, Collip, McLeod & Noble. Effects of Insulin on Experimental Hyperglycemia in Rabbits. Amer. Jr. of Phys. Nov. 1922, Vol. 62, No. 3, p. 559.
4. Banting & Best: The Internal Secretion of the Pancreas. Jr. Lab. & Clin. Med. Vol 7, p. 251, Feb. 1922.
5. Banting & Best: Communication to the Academy of Medicine, Feb. 7, 1922.
9. Banting, F. G. Cst., C. H. Collip, J. B., & Macleod, Med. Vol. 7, p. 464, May 1922.
7. Banting, Best, Collip, Campbell & Fletcher. Pancreatic Extracts in the Treatment of Diabetes Mellitus. Canadian M. A. Jr. Vol. 12, p. 141, March 1922.
8. Banting, F. G., Campbell, W. R., and Fletcher, A. A. Insulin in the Treatment of Diabetes Mellitus. The Jour. of Metabol. Res. Vol. 2, Nos 5 & 6, Nov. and Dec. 1922.
9. Banting, F. G. Cst., C. H., Collip, J. B., & Macleod, J. J. R. Preliminary Studies on the Physiological Effects of Insulin. Trans. Royal Soc. of Canada. Vol. XVI. Sec. VI. Third Series, 1922.
10. Banting, F. G., Best, C. H. Collip, J. B., Campbell, W. R. Fletcher, A. A. MacLeod, J. J. R. and Noble E. C. The Effect Produced on Diabetes by Extracts of Pancreas. Trans. Assoc. Amer. Phys. 1922.
11. Banting, F. G., Best, C. H. The Internal Secretion of the Pancreas. Jr. Lab. & Clin. Med. Vol. 7: 251 (Feb.) 1922.
12. Banting, F. G., Campbell, W. R., and Fletcher A. A. Further Clinical Experience with Insulin. Brit. Med. Journal, Jan. 6, 1923.
13. Bryant, A. P., & Atwater, W. O. Bulletin No. 28, U. S. Dept. of Agriculture.
14. Banting, F. G., Best, C. H. Collip, J. B., Macleod, J. J. R., and Noble, E. C. The Effect of Pancreatic Extract (Insulin) on Normal Rabbits. Amer. Jour. of Physiol. Vol. 62. No. 1 Sept. 1922.

15. Felsher, Hannah. Curve of Sugar Excretion in Severe Diabetes. *Jr. Biol. Chem.* 1922. Vol. 50; p. 121.
16. Forrest, W. D., Smith, W. & Winter, L. B. Change in the Nature of Blood Sugar of Diabetes Caused by Insulin. *Jr. Phys.* 57:224 (March) 1923.
17. Gray & Mayall: *Arch. Int. Med.*, 26, 133 (Aug.) 1920.
18. Gray, Horace. Blood Sugar Standards. *Arch. Int. Med.* Vol. 31, No. 2, 1923.
19. J. A. M. A. 1922, Vol. 28, No. 22. Simplification of Woodyat Method for Calculating the Optional Diabetic Diet. W. H. Holmes.
20. John, Henry J. Distribution of Sugar in Whole Blood, Plasma and Corporsces. *Arch. Int. Med.* Vol. 31, No. 4 (Apr.) 1923.
21. Evans, F. A. Anti Ketogenic Ratio within the limits of safety. *Am. Jr. Med. Sc.* July 1923.
22. McCann, W. S., Hannon, R. R. et al. Studies in Diabetes Mellitus. *Arch. Int. Med.* Vol. 32 No. 2 (Aug.) 1923.
24. McLeod, J. J. R. The Source of Insulin. *J. Metabol. Res.* 2:149 (Aug.) 1922.
23. McLeod, J. J. R. Pancreatic Extract and Diabetes. *Can. Med. Assoc. Jr.* 12:423, 1923.
25. McCormick, N. A., MacLeod, J. J. R., Noble, E. C. and O'Brien, K. The Influence of the Nutritional Condition of the Animal on the Hypoglycemia Produced by Insulin. *Jr. Phys.* 57: 234. (March) 1923.
26. Newburg, L. H. and Holly, L. E. Nitrogen Requirement for Maintenance in Diabetes Mellitus. *Arch. Int. Med.* Vol. 29, No. 97 Jan. 1922.
27. Newburg and Marsh: Use of High Fat Diet in the Treatment of Diabetes Mellitus (1st Paper) *Arch. Int. Med.* Vol. 26 p. 647, Nov. 1920 2nd Paper. *Ibid.* Vol. 27, p. 699, May 1921. 3rd Paper. *Ibid.* Vol. 31, p. 455, Apr. 1923.
28. J. A. M. A. 1922 Vol. 78 p. 1124. A Chart for the Rapid Estimation of Woodyat's Optional Diabetic Diet. D. O'Hara.
29. Olmstead, W. H., & Kahm, S. H. Observations on Use of Insulin in Diabetes Mellitus. *J. A. M. A.* Vol. 80, No. 26, June 30, 1923.
30. Shaffer, P. A. Antiketogenesis I An In Vitro Analogy. *Jour. Biolog., Chem.* 1921, Vol. 47, p. 433.
31. Shafer, P. A. Antiketogenesis II: The Ketogenic—Antiketogenic Balance in Man. *Jour. Biology Chem.* 1921, Vol. 49, p. 449.
32. Shafer, P. A. Antiketogenesis III: Calculation of Ketogenic Balance from the Respiratory Quotient. *Jour. Biolog. Chem.* 1921, Vol. 49, p. 143.
33. Strouse, Solomon. Balancing the Diabetic Diet. *J. A. M. A.* Dec. 2, 1922.
34. Thalhimer, Wm. and Perry, M. C. Diminished Glycolysis in the Blood in Diabetes. *J. A. M. A.* Vol. 80, No. 22, June 2, 1923.
35. Woodyat, R. T. Objects and Methods of Diet Adjustment in Diabetes. *Tr. Assn. Am. Phys.* 1921, Vol. 36, p. 269.
36. Woodyatt, R. T. *Jr. Biol. Chem.* 1915. Vol. 20, p. 129 *Jr. A. M. A.* 1916. Vol. 66, p. 1910 Diet Adjustment in Diabetes. *Arch. Int. Med.* 1921, Vol. 28, p. 126.
37. Woodyatt, R. T. *Arch. Int. Med.*, 28, 125, 1921.
38. Wilder, R. M., Boothby, W. M., & Beeler, C. Studies of the Metabolism of Diabetes. *Jr. Biolog. Chem.* 1922.

## DISCUSSION

**R. H. Davis:** Before the discovery of insulin, the only method which we had for treating diabetic patients was to keep them on a low diet which was equal to their tolerance. It was a well known fact that if a diabetic received more food than he could metabolize, there was a strain on the Islands of Langerhans and the disease progressed. If he was kept within his tolerance the disease was much more inclined to be stationary, although even then in spite of all that could be done there was a steady downward progress in many cases.

With insulin this situation has been very largely overcome. The cases do not have to be kept on a low diet now, but their diet may be raised to meet their needs and the Islands of Langerhans may be kept at rest, and the case may go on for probably an indefinite time.

I am going into a little detail as to the balancing of the dosage of insulin with diet. There are various methods of treating diabetic cases with insulin. One is to place the case on a low diet, and after the sugar disappears from the urine, then raise the diet and insulin gradually up to the requirement. Another is to use arbitrary figures, giving the patient two-thirds of a gram of protein for each kilogram body weight, and as little carbohydrate as can be secured in such a combination. There are various other methods. However, after considerable experimentation over a period of some months with over one hundred cases, I have adopted this plan of procedure. When the diabetic presents himself, I first determine the body surface, which is accomplished by means of a table based upon the height and weight. After securing the body surface in square meters, then by means of DuBois' tables, the basal requirements in calories of this patient may easily be determined. When the basal calories that the patient requires, that is the least amount of food that will maintain perfect equilibrium at rest, are determined, then a diet is figured out which contains a proper quantity of protein, and carbohydrate and fat in the right proportion to make the total calorie requirement.

It will be necessary to go into a little more detail to explain what is meant by this. Every patient, or every individual, requires at least two-thirds of a gram of protein for each kilogram body weight to maintain nitrogen equilibrium. In other words, if he secures less than this, his own tissues will be burned up and there will be excreted more nitrogen than he is taking in, with a resulting degeneration of the organs after a long period of time. He must have two-thirds of a gram of protein for each kilogram body weight, so this is the primary factor in establishing the diet. Some cases may have as much as one gram or even more, so two-thirds



to one gram is the first element in constructing this diet.

After knowing the quantity of protein and knowing the number of calories that the patient is to receive, the least amount of carbohydrates may be determined, which will give a ketogenic-antiketogenic ratio. By ketogenic-antiketogenic ratio is meant the ratio between the total fatty acid production and the total glucose production; in other words, the total fatty acid production divided by the total glucose production will give the ketogenic-antiketogenic ratio. Now by the total glucose is meant the total quantity of carbohydrate is available in the diet. All the carbohydrate is convertible into glucose. Fifty-eight per cent. of the protein is convertible into glucose, and ten per cent. of the fat is convertible into glycerol, later into lactic acid, and that may also be converted into glucose, so you have the total available carbohydrates equal to the carbohydrate intake plus fifty-eight per cent. of the protein plus ten per cent. of the fat. Ninety per cent. of the fats which are consumed are convertible into the higher fatty acids, and forty-six per cent. of the protein may be converted into the fatty acids. Thus the ketogenic-antiketogenic ratio is the ratio of ninety per cent. of the fats plus forty-six per cent. of the protein divided by the total carbohydrate, plus fifty-eight per cent. of the protein plus ten per cent. of the fat, and that must not exceed one and five-tenths; if it does, there is then danger of acidosis. So the diet is then constructed on this principle. With the total number of calories known and with the quantity of protein known, the carbohydrates can be determined by using the following formula: the carbohydrate equals the calories minus eight and nine-tenths P divided by twenty-two.  $C = Cal. - 8.9 P$  divided by 22.

I shall not go into any detail as to the production of this formula because it is too long. If any one is interested I shall be glad to explain it later.

Knowing the carbohydrate, knowing the protein, you can then, by this other ratio, determine very easily the quantity of fat that is necessary for this basal diet.

The patient is now placed on this basal diet and the quantity of urine is measured for twenty-four hours. The glucose determinations are made; the glucose excreted, subtracted from the total carbohydrate intake, will naturally leave the quantity of glucose which can be utilized by that individual.

The dose of insulin is based on the glucose excretion, and the dose of insulin varies very greatly with each individual patient. It ranges somewhere between one unit of insulin for one gram of glucose to three or even four grams of glucose, so the dose should be begun with a small quantity and increased until you have a com-

plete disappearance of the sugar in the urine.

It is important, in giving this dosage, oftentimes to give a very small quantity in the beginning of, say, one unit to see whether the patient has any marked tendency to produce a hypoglycemia. Certain cases are on record where as small a quantity as one unit has produced coma. That can quickly be increased if more is needed, so in two or three days the patient will become sugar free. Then the diet can be raised ten grams of total carbohydrate at the time until a maintenance caloric requirement is secured, and the dose of insulin increased accordingly.

After the total diet has been determined, then it is important to get this patient on as satisfactory a diet as possible, and that requires a great deal of study of the individual. This must be based on his life's requirements, upon his activity, exercise, and on the individual reaction of insulin in that particular case, also upon his financial condition. It is important to secure a diet and a dosage of insulin which will maintain the urine absolutely sugar free, the blood sugar as near normal as possible, with as little fat as possible, and as high a carbohydrate as possible, and as little as possible. That sounds like a rather complicated procedure, but it works out very satisfactorily in different cases. One case may require very little insulin and may be made much more comfortable by giving him a higher carbohydrate diet than another case which will require a considerable quantity of insulin and as a result will have to be kept on a very low carbohydrate diet.

**Frederick Speidel:** It is obvious that the dietary considerations of insulin therapy are extremely important if it is to be successful and without danger. There are a great many ways of calculating diets. The protein requirement, is the one basic factor. The total caloric requirement of an individual depends a good deal upon his activity, but even at rest it varies considerably with age, sex, and other conditions.

In order to compute a patient's diet from his protein requirement and in order to get a diet with a fatty acid-glucose ratio or a ketogenic-antiketogenic ratio of 1.5 the carbohydrate can be determined by the formula which Dr. Davis has just mentioned, that is, the carbohydrate equals the total calories minus eight and nine-tenths times the protein divided by twenty-two.

However, if you use the following formula carbohydrate equals the calories minus ten times the protein divided by twenty the calculation is somewhat simpler and easier to remember, and while it does not give a fatty acid-glucose ratio of exactly 1.5 it does give a fatty acid-glucose ratio of about 1.46, which is close enough for clinical purposes.

The formula of Woodyatt for the fatty acid-glucose ratio, in which the fatty acid-glucose ra-

tio equals forty-six per cent. of the protein plus ninety per cent. of the fat divided by all of the carbohydrate plus fifty-eight per cent. of the protein plus ten per cent. of the fat, gives more accurate dietetic control.

The tables, such as those shown herewith, are based on those formulae, and the tables that we have been using cover the requirements of a large variety of individuals, i. e., individuals from a child weighing twenty kilograms, which is about the weight of a six-year-old child, up to a 100 kilograms (220 pounds) adult.

You will notice that the tables have fatty acid glucose ratio of .75, 1.00 1.25 and 1.50. By these means we can offer any patient a variety of diets. The diet can be raised either in its glucose, fat or protein content. The first tables have a protein content of two-thirds of a gram of protein per kilogram body weight, and the other tables have a protein content of one gram per kilogram body weight.

These tables have facilitated the handling of diabetics to a remarkable extent.

**Ernest Bradley:** Dr. Simpson and Speidel's paper was a most excellent one and I am sorry that he did not have a longer time in which to read it.

I heard Dr. Simpson talk on the subject of Insulin in this room about two months ago, and he was able to go into the subject much more deeply and thoroughly because he was not limited in time. It struck me in listening to Dr. Simpson and Dr. Davis that while this might be understood by physicians who have studied diabetes and ketogenic antiketogenic ratio, the general practitioner would not get quite an adequate idea of the procedure to follow. It isn't necessary to be able to obtain blood sugar determinations in order to give Insulin, although, of course, this is a great help, but it is absolutely necessary to make quantitative estimations of the sugar in the urine. This is not difficult and any man who is able to do any sort of laboratory work can soon learn to make these tests. If one can do this and study the subject of diabetes as it is now outlined, he can treat his patients with Insulin intelligently. In other words, if a patient, say an adult (the different ages make different caloric requirements) is up for treatment, and you know his weight you can weigh him in pounds and then convert that into kilograms, one can give him thirty calories per kilogram, which is an ordinary maintenance diet. He may require a little more, but usually that is enough; then if you decide you will give him one grain of protein per kilogram, which is an ordinary maintenance nitrogen requirement, it is very easy from these tables to figure out how much carbohydrate and how much fat you ought to give him so he won't be getting too much fatty acid to produce an acidosis. If you put him im-

mediately on such a diet and then estimate the total twenty-four hour sugar for three or four days and make an average of it, you can find out just about what his Insulin requirements are.

If you put such a patient on that diet, in a great many cases he or she will not require any Insulin at all. Patients who have had diabetes for years and thought they had very severe cases, if put on a properly balanced diet of that kind will get along very well and will not have any sugar in the urine and not have any acidosis. It is hardly necessary to add that they do not need Insulin.

I have had not a very large number of diabetic cases since Insulin came out, but more than sixty per cent of those who have come for Insulin have not required it when put on a properly balanced maintenance diet. I think that is an important thing to know. If the general practitioner is going to take every diabetic and decide that he will give him Insulin because that is what he comes for, he is going to do more harm than good. The patient cannot be taking Insulin unless it is known how much carbohydrate he is taking in without great danger to himself. I think that point ought to be emphasized and no doubt it would have been emphasized if the essayist had had more time.

It isn't as hard to treat the ordinary case of diabetes with Insulin as it sounds from these papers, though it may be a great deal more difficult in some cases than the papers have given any idea of. The general practitioner or the man who has certain laboratory facilities, however, can try, and he will succeed in more than seventy-five per cent of his diabetes, to control their diabetes with Insulin, and in the other twenty-five per cent he can refer them to specialists who have facilities for blood sugar determinations and where their diets can be more accurately supervised.

**V. E. Simpson (in closing):** Mr. President and Gentlemen: One may get the idea from the hurried reading of the part of the paper that was read that this is a very cumbersome and very difficult plan to carry out for patients, and that the patients would be in the main unable to acquire a knowledge of the details that we indicated in the beginning which we consider as necessary for satisfactory and safe procedure in the administration of insulin.

It might be of interest to you to know, however, that the majority of patients are possessed of sufficient intelligence and sufficient education that they can readily grasp the fundamentals with reference to diet, that they are easily trained in the method of administration, determination of the dose and giving of the insulin and can give it to themselves. It requires but little time to train them sufficiently well to do quantitative estimations of the sugar in their



urine daily. We have had a number of people who have been able to go away from the hospital and as their tolerance increased, or their work had increased, and the necessity for more food had increased likewise, and these patients were able to balance their own diet, increase the caloric intake daily, adjust the doses of insulin, and in not a few cases have been able to satisfactorily reduce the dosage and are today free from its administration, carrying on with a maintenance diet sugar free.

The plan that we outlined with regard to hospitalization as the preparatory step is we believe the better plan. A stay of from ten to fourteen days in the hospital for the purpose of determining that individual's ability to handle sugar, that individual's sugar tolerance, adjusting his dosage to the diet that he requires, we believe will give the physician when the patient returns to his home a more comprehensive idea as to what he is doing and a better grasp on the necessities of the situation than to undertake it with less accurate information at hand. After the patient does return home, the doctor then can exercise the general supervision of the patient's diet, he is not obliged to make daily visits for the administration of insulin, he is not obliged to make daily determinations of sugar in the urine, and the question of subsequent blood sugar determinations have some question. How often a patient should return for such determinations after he has returned to his home varies. Joslin states that less than twenty per cent of his cases have had as much as one sugar determination made on an average monthly. We do not believe that even is necessary, that longer intervals can be permitted, particularly when the dosage is small; after the patient's tolerance has risen and the dosage of insulin has been gradually reduced, as it can be reduced, toward the vanishing point, the necessity for blood sugar determination becomes correspondingly less, because the danger in insulin after all is solely a matter of low blood sugars, nothing else.

The question is sometimes asked, "What harm is there in the administration of insulin? What dangers does it carry?" The administration of insulin of itself, so far as the agent itself is concerned, independent of its metabolism of sugar, contains no more potentialities for harm than the taking of pepsin would carry, but the harm rests solely on the metabolism of the sugar and its reduction of blood sugar below limits of safety.

The experimental work with rabbits in giving insulin to a rabbit that weighs so many kilos shows

that when a rabbit's blood sugar is burned below forty-five milligrams per hundred c.e., symptoms of a marked character begin, convulsions ensue, and if allowed to go on the rabbit would die within a short period. The symptoms of overdosage of insulin are symptoms that are translated into terms of symptoms of low blood sugars, nothing else. These symptoms are usually rather slow in their manifestations, relatively so; patients themselves can be easily trained to recognize a sense of hunger, of restlessness, of perspiration, and things of that sort which are early evidences of a low blood sugar, of a reduction in the blood sugar and of a necessity for replacing the sugar that the insulin you gave has burned, and that can be done in a simple manner. The patient may eat an orange or a bit of candy, and all the symptoms will disappear within ten or fifteen minutes after he has taken in such food. After the patient has gone on after the hours of repose and the graver manifestations of hypoglycemia appear, where coma would be making itself manifest and eventually death would occur, we have a more serious proposition. In these graver manifestations of hypoglycemia more heroic measures of resuscitation are necessary, the giving of glucose by the mouth, if they can't swallow introduce a stomach tube into the stomach and pour the glucose in. We have already learned considerable about the absorption of sugars in the stomach. It takes it up as a sponge does water. I have seen personally in other hospitals during some of my studies in the past few months some cases that had thus been reduced to a state of very low blood sugar with grave symptoms manifesting, and within fifteen minutes after glucose had been introduced into the stomach with a stomach tube the patient was able to sit up and converse intelligently. So it is a question not of the danger of the drug except in the sense of the fact that it metabolizes sugar and the low blood sugar constitutes the danger. The reported cases that I have occasionally heard of where patients died from the administration of insulin are viewed with grave doubt as to their accuracy.

The average doctor can carry on with his case after the preliminary hospitalization period has been observed.

I must, however, reiterate the statements made in the paper concerning the advisability of hospitalization, Dr. Bradley to the contrary. These cases should be worked out on a basis of accurate knowledge of what the patient can metabolize, the maintenance diet fixed and the dosage of Insulin determined. Then on going home after this short period of hospitalization, the doctor in the most rural district can supervise the further management of the case. But attention to detail must be emphasized to both the patient and his doctor.

# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price ..... \$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD ..... Paducah

### PRESIDENT-ELECT

J. RICE COWAN ..... Danville

### VICE PRESIDENTS

C. W. DOWDEN ..... Louisville

J. G. FOLEY ..... Pineville

E. G. THOMAS ..... Benton

### TREASURER

W. B. MCCLURE ..... Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL ..... Louisville

LEWIS S. MCMURTRY ..... Louisville

W. W. RICHMOND ..... Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK ..... Louisville

### ORATOR IN MEDICINE

E. R. PALMER ..... Louisville

### FIRST DISTRICT

V. A. STILLEY ..... Benton

### SECOND DISTRICT

D. M. GRIFFITH ..... Owensboro

### THIRD DISTRICT

J. H. BLACKBURN ..... Bowling Green

### FOURTH DISTRICT

C. Z. AUD ..... Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN ..... Louisville

### SIXTH DISTRICT

R. C. MCHORD ..... Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD ..... Lancaster

### EIGHTH DISTRICT

J. E. WELLS ..... Cynthia

### NINTH DISTRICT

J. W. KINCAID ..... Catlettsburg

### TENTH DISTRICT

R. J. ESTILL ..... Lexington

### ELEVENTH DISTRICT

J. S. LOCK ..... Barboursville

### SECRETARY-EDITOR.

ARTHUR T. MCCORMACK ..... Louisville

### BUSINESS EDITOR

L. H. SOUTH ..... Louisville

### ASSOCIATE EDITORS

H. A. COTTELL ..... Louisville

J. K. FREEMAN ..... Louisville

### ASSISTANT EDITORS

#### UROLOGY

W. A. GRANT ..... Louisville

#### DERMATOLOGY

S. A. STEINBERG ..... Louisville

#### GENERAL SURGERY

IRVIN ABELL ..... Louisville

C. C. HOWARD ..... Glasgow

#### PEDIATRICS

P. F. BARBOUR ..... Louisville

#### OBSTETRICS

EDWARD SPEIDEL ..... Louisville

L. C. REDMON ..... Lexington

#### EYE

ADOLPH O. PFINGST ..... Louisville

#### EAR, NOSE AND THROAT

O. T. WOLFE ..... Louisville

S. S. WATKINS ..... Louisville

#### PROCTOLOGY

G. S. HANES ..... Louisville

BERNARD ASMAN ..... Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM ..... Owensboro

R. H. COWLEY, ..... Berea

#### ANESTHETICS

W. H. LONG ..... Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN ..... Louisville

## COUNTY SOCIETY REPORTS

Clark---The Clark County Medical Society met in regular session on January 18, 1924, at 8 o'clock, at the office of the President, Dr. Samuel J. Rose, the President in the chair.

Members present: Drs. Samuel J. Rose, E. R. Bush, O. P. Clark, J. E. Baucom, Howard Lyon, Robert B. Ishmael and George F. Doyle.

Minutes of the previous meeting were read and approved.

Dr. Rose read a paper on Biochemistry and Electricity, in which he said: "Biochemistry is that branch of science which treats of the composition of animals and plants, the processes by which the various fluids and tissues are formed, the nature and causes of that abnormal condition we call disease, and the restoration of health by supplying the body with the cell salt that is lacking.

Approximately one-twentieth of the body is composed of inorganic salts, which are known as cell salts or tissue remedies. Of these salts, there are twelve in various combinations, which are: (1) Phosphate of lime, iron, potash, soda and magnesium; (2) Chlorides of potash and soda; (3) Sulfates of lime, soda and potash; (4) Fluoride of lime; and (5) pure silica. Of these, those entering into the formation of nerve cells, and hence useful remedies in diseases of the nervous system, are the phosphates of magnesium and potassium. Of muscle cells, the same as the above with the addition of the chloride of potassium. Of bone cells, calcium and silica.

Biochemistry is in its infancy. Electronic control is also in its infancy. Biochemic pathology depends upon the state of normalcy of the electron. Protons are positive charges of electricity, while electrons are negative charges, both being contained in the atom and the atom within the molecule of all matter. The incessant activity of electrons causes radiation. The condition we call health, is the normal functioning of all the component parts of the human organisms. All the essential component parts of the body are great remedies.

All diseases that are curable, in a natural manner through the circulation of the blood. The cells of the body are not fed. They feed themselves. They reject what they do not need, and this cannot be forced upon them, except to the detriment and death of the body. The tissues are kept in a normal state as long as they can receive the required quantity of cell salts necessary for the upbuilding of the different tissues.

Disease is an altered state of the normal cell, produced by some irregularity in the supply to the cells of one or more inorganic salts, or to a weakened, subnormal electron, or both. Imperfect cell action results and all the



phenomena of disease are developed. The cure consists in restoring the normal cell growth by furnishing that inorganic cell salt that is lacking or whose molecular motion is disturbed, and which disturbance has caused the diseased action. Chemical affinity plays here a particular part by the cell feeding itself and by the action of the electron within the cell which attracts and welds the substance which is most needed to restore it to normal. Without the action of the electron there would be no life to the cell, for attraction and death would occur instantly.

Therefore, for perfect health, there must be a sufficient supply of cell salts, or inorganic salts, and a normal electronic force, without which no human being can exist for any great length of time. It is essential for health that there be a normalcy of the cell salts as well as electronic action. We know, for example, that in anemia iron is lacking and in many diseases of the bones, calcium is lacking. To correct any disease let us remember that either electronic action is disorganized or that there is a deficiency of cell salts, or both, and since it is absolutely essential for health that both the cell salts and electronic action be normal, our object must be to make such corrections as are found necessary. It matters not what means we employ, as long as the results are accomplished; whether we use physical therapy, ionization with the X-ray, the actinic rays, electronization, diathermy, high frequency, autocondensation, Faradism Galvanism or the sinusoidal current. But any method or methods that we may select should be assisted by the proper administration of the cell salts that are lacking."

In conclusion, Rose said that it should be distinctly understood that physical therapy by no means eliminates the judicious use of internal medication and surgery, and he likened physical therapy, internal medication and surgery to a three-legged stool—without either leg the stool is a poor one. The patient consults the physician with complete confidence, and let us not prove false to this trust by offering him internal medicine alone, surgery alone, or physical therapy alone, for if we do, we are only offering him a two-legged stool. We have no claim to his confidence if we offer him less than our best.

Dr. Rose also presented a patient with diabetic gangrene of the heel, which had been completely healed by means of diathermy.

Both the paper and the case presented were freely discussed by all present.

There being no further business, the meeting adjourned.

GEORGE F. DOYLE, Secretary.

**Whitley**---Dr. W. C. Bryant died at Norton Infirmary, Louisville, Ky., Jan. 17th, 1924, of a complication of chronic troubles. He was a graduate of the Hospital Medical College, one of the fine medical schools which united several years ago with the University of Louisville to form one strong school of medicine in the State.

He lived to the age of 71 years and always controlled a large practice, having lived at Corbin since its inception. He was the type of man who always had an encouraging word for you, and endeavored to instill a new hope and look on the bright side.

He was the first mayor of Corbin elected by regular vote. He was born in Whitley county and resided in the same county all his life, and did practice in the same county. He was a member of our medical society and was always anxious to render assistance and was compassionate with the poor people so with pleasure he was always ready to cooperate in any good cause.

Where as, the hand of Divine Providence has removed from our midst Dr. W. C. Bryant, our beloved co-worker; Be it Resolved:

That in his demise Corbin has lost a kind and affectionate citizen.

That the Corbin Medical Society has lost one of its oldest and most valued members,

Therefore be it resolved: That we tender to his bereaved wife, daughter and son, who were constantly at his assistance, our most sincere sympathy.

That as an expression of our esteem and fraternal regard for Dr. Bryant these resolutions be spread on the minutes of the Corbin Medical Society, a copy be tendered to the wife, a copy be sent to the Kentucky Medical Journal and the Corbin Times-Tribune.

J. F. WILDER, B. J. EDWARDS, O. L. RICHMOND, Committee.

**Perry**: Perry County Medical Society banquet and program was held at the Combs Hotel, Hazard, February 11, at 8 P. M. The following program was carried out:

Regular Business of the Society and Reading of Minutes.

Address---By President H. W. Gingles, Hazard.

Response---Dr. R. J. Estill, Lexington, Ky.

Address (Sanitation)---Mayor J. E. Craft, Hazard.

Address---W. M. Cole, President Lions club.

Address---W. F. Ficklin, President Commercial club.

Address---John E. Wilson, President Rotary club.

General discussion by Doctors.

**Franklin**---At the regular monthly meeting of the Franklin County Medical Society held at the Capital Hotel, Monday, Feb. 11th, at noon, C. T. Coleman, president, presiding, there were present 10 members.

Minutes previous meeting read and approved. Treasurer's report read. A bill from State Journal for \$16.60 for advertising was ordered paid.

The Committee appointed at January meeting to write suitable endorsement of the present State Board of Health reported the following resolutions, which were unanimously accepted

"Be it Resolved, That the Franklin County Medical Society in meeting assembled do hereby unreservedly endorse the Kentucky State Board of Health and the manner in which its affairs are conducted and administered; and, that we fully endorse the laws of Kentucky under which the Kentucky State Board of Health is now operating, and do hereby voice our opposition to any change being made in said laws:

"Be It Further Resolved, That we do hereby express our fullest confidence in the ability and integrity of Doctor Arthur T. McCormack, Secretary of the Kentucky State Board of Health, and that we do hereby voice our hearty approval of his administration of the affairs of the Kentucky State Board of Health, and the splendid work he is doing in connection therewith."

Committee on revising Fee Schedule made their report. This was accepted and the Secretary ordered to have same printed in full in Sunday's issue of State Journal and 50 cards printed and be given to the physicians to have in their offices.

The \$75,000,000 Bond Issue and its relation to the doctor came up for a most animated discussion and the secretary was directed to write Senator Bell in the name of the F. C. M. S. to vote against it.

Dinner being served it was decided to have report of Credit Rating Committee at the next meeting, Monday, March 10th. Adjourned.

F. W. MASTIN, Secretary.

**Hardin**: The Hardin County Medical Society met on Feb. 14, at the Community Center in Elizabethtown, Ky., with the following members present: E. W. Montgomery, Pres.; H. R. Nusz, Cecilia; C. W. Rogers, Rineyville; W. J. Shacklett, Glendale; J. M. English, R. T. Laymen, J. C. Mobley and D. E. McClure, Elizabethtown.

The minutes of the meeting of Jan. 10 were read and approved. The morning session was devoted to story telling and to having a general good time.

At the afternoon session, many important abnormal conditions of pregnancy and parturi-

tion were reported and discussed. We find that these informal meetings through the reports and discussion of actual conditions met in everyday practice result in more practical benefit than do the formal meetings with a fixed program.

The next meeting will be held Thursday, March 13. It will be unfortunate for any member to be absent. We hope to have the LaRue county doctors with us.

The meeting adjourned at 3:30 P. M.

D. E. McCLURE, Secretary.

**Christian**---The Christian County Medical Society met in regular session Tuesday Dec. 18th, in the private dining room of the Hotel Latham, Hopkinsville, promptly at noon where a delightful dinner was served.

The following members being present: Drs. O. L. Barnes, M. E. Croft, W. E. Gary, W. L. Haynes, P. E. Haynes, S.H. Willis, W. E. Reynolds, T. W. Perkins, F. M. Stites, F. M. Stites, Jr., A. Sargent, A. Bell J. B. Jackson, J. W. Harned, H. W. Watts, J. E. Stone, R. L. Woodard, J. G. Gaither, G. W. Lovin, W. W. Durham, and W. S. Sandbach.

Immediately after dinner Dr. Barnes called the meeting to order, and the annual election of officers for 1924 followed:

President, R. L. Woodard; Vice President, J. G. Gaither; Sec.-Treas., W. S. Sandbach, re-elected; Censor, O. L. Barnes; Delegates, Woodard and Sandbach.

After a discussion of the anticipated change in our medical laws at the coming legislature, by Drs. Gaither, Bell, Woodard, Williams, Croft and Sandbach, the following resolution was unanimously passed.

To his Excellency, The Governor of Kentucky:

The Christian County Medical Society wishes to present this as an endorsement of the present laws relating to the State Board of Health and the Board of Charities and Corrections. We believe that modification, especially such as anticipated by Dr. Milton Board, in his recent article, will be unwise. These two boards are bipartisan or non-political and are now rendering excellent service either to the unfortunate charges of the State or safe-guarding the public health.

We pray you make no change in our laws relating to them.

By request of Dr. Erkiletian, his paper on Exophthalmic Goiter was postponed till our January meeting and we stood adjourned.

W. S. SANDBACH, Secretary.



**Pendleton**---The Pendleton County Medical Society met in regular session on Dec. 12, at 1:30 p. m., in the office of Dr. H. C. Clark. The vice president, C. H. Kendall, in the chair.

Minutes of last meeting read and approved. It being the regular time for election of officers H. C. Clark was elected President, C. H. Kendall, Vice President, B. N. Comer, Secretary and Treasurer. Delegate O. W. Brown, Alternate W. A. McKinney. Board of Directors, O. W. Brown, B. N. Comer, W. A. McKinney.

There being no further business the meeting adjourned.

B. N. COMER, Secretary.

**Scott:** Scott County Medical Society met at Georgetown, Ky., Feb. 14, at the regular monthly meeting in the office of the Department of Health, with the following officers and members present: H. V. Johnson, Pres., presiding; W. H. Coffman, D. B. Knox, L. F. Heath, S. S. Anderson, W. W. Zwick, William Mason, Stamp- ing Ground, and A. Stewart, Secretary. Minutes of previous meeting read and approved.

First in order was the reading and discussion of communications. There being no other business for the present, the society had the pleasure and opportunity of listening to an excellent talk on Surgery and Medicine in China, by Dr. W. W. Zwick, an ex-medical missionary. He also gave us some interesting points on political, financial and religious conditions.

W. H. Coffman brought out some very interesting points on the manners of living and preventive medicine of the natives.

Next in order a program was arranged for the next monthly meeting, which will be held at the Rotary Club, New Lancaster Hotel, 2nd Thursday in March, for 12 o'clock lunch immediately after which the meeting will be in session. After the regular routine business a paper will be read by Dr. E. C. Barlow, specialist on diseases of eye, ear and throat.

Next a paper or talk by Dr. Stewart on some phase of public health work. Meeting adjourned.

The following resolutions were sent to the Governor.

Georgetown, Ky., Jan. 22nd, 1924.

To His Excellency, the Governor of Kentucky:

The Scott County Medical Society wishes to present this as endorsement of the present laws relating to the State Board of Health and the Board of Charities and Corrections. We believe that the modifications, such as anticipated by Dr. Milton Board and embodied in House Bill No. 35, will be unwise.

These two boards are now rendering excellent service either to the unfortunate of the State or by safeguarding the public health.

We pray you make no change in our laws relating to them.

H. V. Johnson, E. C. Barlow, A. Stewart  
Committee.

**The Kentucky Osteopathic Society**, composed of all the osteopaths practicing in the State of Kentucky, have been registered and under the jurisdiction of the State Board of Health since 1894. Since 1898, a member of our profession has been a member of this Board. Our attention has been called to recent charges that this Board was controlled by a medical oligarchy. As half of the members are nominated to represent three newer schools of medicine and the pharmacists, this charge is manifestly unjustifiable. Each of our members has taken the examination before the Board and has received the same just, courteous and fair treatment that has been accorded to every other applicant. We are thoroughly familiar with the methods of the Board's work in regard to the various schools of practice, and we know it has encourage their development so as to make them better able to help in caring for the sick people of the State. The members of this organization take great pride in their joint responsibility for the administration of the State Board of Health for a quarter of a century. We especially call attention to the repeated investigations of the Board instigated by political leaders with a view to securing its control and that each session of the General Assembly has commended its conduct of its affairs. We particularly resent the attacks made by former employees of the Board who supported its organization as long as they were its beneficiaries and who now seem to attack it because they cannot control its operation. We desire to express our special confidence in its Secretary, Dr. A. T. McCormack, who was trained for the position by his father, the most distinguished medical statesman of his generation. The recent report of the State Inspector and Examiner indicates the efficiency with which its affairs are conducted and we would deplore any attempt to introduce political control, which the experience of our profession in other states has indicated lowers the morale of the employees and destroys public confidence in its life-saving activities.

Now, therefore, the Kentucky Osteopathic Society memorializes the Governor, Honorable William J. Fields, and the members of the General Assembly to preserve the health and medical laws as they have been perfected through a generation that Kentucky may continue to be a model among the states in its work for the production of the health and lives of its citizens.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



# What Is S. M. A. ?

S. M. A. is an adaptation to breast milk which resembles breast milk both physically and chemically.

S. M. A. in addition to giving excellent nutritional results in most cases, also prevents nutritional disturbances such as rickets and spasmophilia.

S. M. A. requires no modification or change for normal infants. As the infant grows older the quantity is merely increased.

S. M. A. requires only the addition of boiled water to prepare.

(Orange juice, of course, should be given the infant fed on S. M. A., just as it is the present practice to give it to breast-fed infants.)

## Why was S. M. A. developed?

Because there is a real need for an adaptation to breast milk which will give satisfactory nutritional results in the great majority of cases, which includes the preventive factors, and which is, at the same time, so

simple to prepare that the physician can rely on the mother to follow his directions accurately.

## How is it possible to feed S. M. A. to Infants from birth to twelve months of age without dilution or change?

The answer to this question sounds the keynote of the success which thousands of physicians are having with S. M. A. It is not necessary to modify S. M. A., for *the same reason that it is not necessary to modify breast milks*—for S. M. A. resembles breast milk not only in its protein, carbohydrate and salt content, but also *in the character of the fat*. Since the very young infant can tolerate the fat, as well as the other essential constituents in S. M. A., it is possible to give this food in *the same strength*, to normal infants *from birth to twelve months of age*.

As the infant grows older, therefore, it is only necessary to increase the *amount* of S. M. A.



*Samples and literature to physicians on request.*

✱

S. M. A. is to be used only under the direction of a physician. For sale by druggists.

✱

Formula by permission of The Babies' Dispensary and Hospital of Cleveland.

✱

**THE LABORATORY PRODUCTS CO.**

Cleveland, Ohio

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., MAY, 1924

No. 5

## CONTENTS AND DIGEST

### EDITORIAL

NEW COUNCILORS .....	137
THE COUNTRY'S CALL .....	137
A NEW GENERAL ANTISEPTIC IN OUR ADVERTISING PAGE .....	138

### OFFICIAL ANNOUNCEMENTS

TO THE EDITOR .....	138
---------------------	-----

### SPECIAL ARTICLE

OBSTETRICAL COLUMN, By Alice N. Pickett, Louisville, .....	139
--	-----

### ORIGINAL ARTICLES

THE ELECTROCARDIOGRAPH: ITS VALUE AND LIMITATION, By Emmet F. Horine, Louisville, .....	144
DISCUSSION, By Wm. A. Jenkins, H. N. Leavell, J. W. Heim, and in Closing by Essayist .....	
PREGNANCY COMPLICATED BY UTERINE FIBROMA: POST-OPERATIVE INTUSSUSCEPTION: NEPHRITIS: UREMIA FATALITY, By L. Wallace Frank, Louisville, .....	148
DISCUSSION, By Gavin Fulton, and in Closing, by Essayist .....	

(Continued on Page V)

## Diagnosis--The Key to Success

### Foster's A NEW BOOK Examination of Patients

Dr. Foster believes that the development of laboratory methods has somewhat directed attention away from the fundamentals of sound diagnostic practice—trained senses of touch, sight and hearing. His book reverts sharply to these fundamentals, giving to laboratory evidence, however, full consideration as data to support other evidence. But major importance is placed on the questions to be asked the patient, the order of questioning, the methods and procedures to follow—the *technic* of examining—and then the translation of these facts into clinical significance.

By NELLIS B. FOSTER, M. D., Associate Professor of Medicine, Cornell University College of Medicine. Octavo of 253 pages, with 70 illustrations, a number in colors. Cloth, \$3.50 net.

### Todd's NEW EDITION Clinical Diagnosis

This *new (5th) edition* is virtually a new book—largely rewritten, endless new material added, and despite a page containing twenty-five per cent more matter than formerly, an increase in size of some 75 pages. *Blood chemistry* is only *one* of the many new things added. Others are Rosenthal's application of the phenoltetrachlorophthalein test for liver function, flocculation test, permittite method for ammonia in urine, typing pneumococci, and many more. An Index-Outline gives the page on which will be found the high points necessary in making laboratory diagnostic tests for certain diseases.

Octavo of 762 pages, with 325 illustrations, 29 in colors. By JAMES CAMPBELL TODD, M. D., Professor of Clinical Pathology, University of Colorado. Cloth, \$6.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



MEAD'S

# BETTER BABIES

The most important factor in the development of a Nation is

## *The Birth and Rearing of Children*

No food is more important during the first year of life than BREAST MILK.

The best substitute for Breast Milk is Fresh Cow's Milk.

Every baby, whether bottle-fed or breast-fed, should be under the supervision of a physician.

Many physicians have learned

The value of Mead's Dextri-Maltose in the Modification of Cow's Milk.

The value of Mead's Casein in Fermentative Diarrheas.

The value of Mead's Cod Liver Oil to protect the infant from rickets.

The value of MEAD'S POLICY.

THE MEAD JOHNSON POLICY—Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by writing instructions from her doctor, who changes the feeding from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

Mead - Johnson & Company    Evansville, Ind.

London Address:  
40-42 Lexington Street,  
London, W. I.



Canadian Address:  
163 Dufferin Street,  
Toronto, Ont.

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., MAY, 1924

No. 5

## EDITORIAL

### NEW COUNCILORS

At its recent meeting, the Council of the State Medical Association has had presented it the resignations of Doctors J. E. Wells of Cynthiana, J. W. Kincaid of Catlettsburg and J. S. Lock of Barbourville from the Council. These resignations together with the recent death of Dr. W. W. Richmond, caused the largest change in the personnel of the Council since its organization in 1902. All of these Councilors have served continually during that time except during the year when each of them was elected to the presidency. No other members have contributed more to the remarkable success of medical organization in Kentucky. The responsibility of the Councilor is very great. They are the bishops of the medical organization. No personal sacrifice has been too great at any time for these men in their Councilor work. Their names will always be carried on the roll of honor of the Association.

As has previously been announced, Dr. V. A. Stilley, of Benton, has been selected Councilor for the First District, Dr. F. A. Stine, of Newport, for the Eighth, Dr. A. J. Bryson, of Ashland, for the Ninth and Dr. W. M. Martin, of Harlan, for the Eleventh. At its January meeting in Frankfort, the Council recommended to the Governor to succeed the late Dr. L. S. McMurtry the names of Doctors R. Julian Estill, of Lexington, Louis Frank, of Louisville, and E. M. Howard, Jr., of Harlan, and Governor Fields appointed Dr. Estill for Dr. McMurtry's unexpired term.

At the meeting of the State Board of Health in Louisville, Dr. J. E. Wells of Cynthiana was elected President for Dr. McMurtry's unexpired term. Dr. Wells is one of the best known and best beloved physicians in Kentucky. He has held all of the offices in the Harrison County Medical Society and has been Councilor in his district since the reorganization of the Association.

The new Councilors are ready and anxious to be of the same service to the several county societies and to the physicians of their districts as were their predecessors. In accepting these positions they realize they accept a very great responsibility for leadership in organized medicine and public health.

### THE COUNTRY'S CALL.

There has never been any failure upon the part of the Youth of this Country to respond to its call for service in time of War, or for any great emergency. It is just as important to respond to its call in peace. This is particularly true since the policy of the Government, sanctioned by its people, is to limit the personnel of its standing army, and to depend for preparedness upon the systematic training of its Youth.

There are several reasons for this policy, the most important being that the people of the United States have no desire to enter upon a War of aggression. While everyone recognizes that there is no surer guarantee of peace than the ability to defend one's self or one's Country, yet it is generally recognized that the expense incident to the upkeep of a standing army of sufficient proportions to render this Country immune from attack would entail an immense expenditure of money and carry a needless burden of taxation. It has therefore, been the policy to keep a standing army of sufficient size to protect our territories and to prevent internal rebellion and strife, but in the main to provide a skeleton of organization upon which there may be formed quickly an army commensurate with the needs of the occasion. In order to do this the Youth of the Country must receive certain training which, with some supplemental instruction will fit them to serve as officers.

A certain sum of money has been appropriated to cover the expense of the Citizens' Military Training Camps. The attendance upon these Camps will of necessity be limited in accordance with this appropriation. The



number assigned to Kentucky for this year is 1010. There should be a much larger number of applicants for the course. But because the enrollment is small, it is more important for the honor of the State that the quota be made up promptly.

In addition to the duty call there are many benefits to accrue to those who are enrolled in these classes. The physical training obtained is very beneficial, and these boys come home hard as nails — upstanding young men. They are taught the methods of personal hygiene which are most salutary. An acquaintance formed in these Camps is of great advantage to the Young and may lead to the strongest friendship lasting throughout life. There are many more advantages to the students, of which space prevents the enumeration. First come, first served.

We wish to ask the Physicians of Kentucky to send the boys of their Clientele to these Camps. Few doctors realize the far-reaching effect of their advice and example in matters of this kind, and the great benefit to the community at large.

The Physicians should also become members of the Medical Officers Reserve Corps, since the boys must be cared for when sick, and good Doctors are needed. You responded nobly during the World War. You can do as well now with much less discomfort, and a few weeks in training camp will make an outing from your regular routine.

Applicants for the training camp should be from seventeen to twenty-four years of age. A letter to the State Medical Journal, or Headquarters 5th Corps Area Office, C. M. T. C., Officer Ft. Hays, Columbus, Ohio, will bring you an application. Come boys, and join!

The Citizens Military Training Camp will be held at Camp Knox, Ky., opening July 2 and closing July 31. Courses will be Basic (formerly Basic Red), Red (formerly advanced Red), White and Blue. The qualifications are the same as last year, except:

Applicants for the "White" course are not required (as previously) to obligate themselves to join a component of the Army of the U. S.

Training will be offered in Infantry, Cavalry, Field Artillery, Engineers, Signal Corps, and Band.

J. GARLAND SHERRILL,

Lt. Col. M. O. R. C. U. S. A.

## A NEW GENERAL ANTISEPTIC IN OUR ADVERTISING PAGE

Hynson, Westcott & Dunning, the great Bacteriological firm in Baltimore, call attention to a new general antiseptic Mercurochrome-220 Soluble. The attention of the profession in the East has been attracted to this subject by the research work done by Dr. Hugh H. Young of Baltimore. In a small series of cases of general bacteriological infection of the blood, Dr. Young was able to secure very spectacular and almost immediate relief by the intravenous use of this new antiseptic. If further trial of it shows that it merits the approval of so distinguished a surgeon as Dr. Young, it will be found to be one of the great discoveries in therapeutics. We would suggest to our readers that they write the firm for literature on the subject and that it be given the expensive tryout that its merit apparently warrants.

## OFFICIAL ANNOUNCEMENTS

TO THE EDITOR: I was very glad indeed to see the notice in the last issue of the JOURNAL with reference to the program and am now asking if you will not publish this letter for me in the next number of the JOURNAL.

In response to our previous request which appeared in last month's JOURNAL, we have received a number of letters, but these will in no manner suffice to fill up the program for the meeting of the State Medical Association this fall.

Your Committee would like very much to receive voluntary papers and would be glad to have the members send in their names and titles within the next thirty days. The program will in part be an invitation program just as it has been in the past and we are very anxious indeed to have all essayists begin work on their papers as early as possible in order to enable them to give these papers the necessary study and make them of the high character for which our Society transactions are noted.

An invitation has been extended Dr. Matas of New Orleans to make the Surgical address and Dr. Stengel of Philadelphia to make the Medical address. These two papers in themselves should these gentlemen accept, will be worthy of all the time spent in attendance at the meeting this fall.

We shall endeavor so to arrange the program that the last days session, particularly the last afternoon will be the strongest and best of the whole meeting. We are endeavor-

ing to obtain contributions from the Surgical Section and the Urological Section for this session and hope to have these two Sections hold their meetings jointly with the general society on the afternoon of the last day of the meeting. We think this will make the last day's meeting the most attractive and of sufficient importance to maintain the interest of the membership until the very last discussion has been ended.

Your Committee has further decided that it will request clinics to be held by the local Louisville Profession on Friday and Saturday following the meeting and we hope to publish the list of these clinics in the program which will be issued for the scientific session. In other words the character of cases, the operators and the location of the clinics will all be given in the scientific program so that the members may know before hand and even before they attend the meeting just what they will see in the way of clinics.

The local Profession, the Committee and your President desire to make this one of the outstanding meeting in the Association from the standpoint of scientific interest. We, of the Committee, are anxious to set a standard that will be an inspiration to the Society and put our meetings on a level with the very best in the Country. To do this, we need the help of the membership.

To accomplish the above, it is necessary that work on the papers be begun very shortly, so will those who have something to contribute, kindly send in their names at once, as well as the titles. While we doubtless cannot put all who send in titles on the program, we do wish to get all the voluntary papers possible.

**THIS IS YOUR SOCIETY** and upon your co-operation depends its attainments.

Very truly,

LOUIS FRANK,

Chairman Program  
Committee.

**Brain Tumors.**—D'Allocco compares the clinical course and necropsy findings in ten more brain tumor cases, a total of thirty thus analyzed. In one case the man recovered after an operation on the hematoma. The symptoms were misleading in the multiple tumor cases. A sarcoma in the left rolandic region successfully removed in 1899; a decompression operation was applied in four cases, and the necropsies in many other cases showed that the tumors had offered every chance for successful extirpation. He advises operation in every case.

## SPECIAL ARTICLE

### Obstetrical Column

Edited by ALICE N. PICKETT

Director of Prenatal Clinic Louisville City Hospital.



MOTHER AND CHILD

The following letter from Miss Bettie W. McDonald, R. N., who is director of the Public Health Nursing Association of Louisville, is worthy of attention, since it has to do with the results we have gotten through Prenatal Care. The Mother and Child Clinic which Miss McDonald mentions is the Venereal Clinic conducted by Dr. Likens under the direction of Dr. William Young. In this clinic only mothers and children receive treatment for syphilis, both prenatally and postpartum. We consider that we are treating two distinct individuals when we treat a mother, with her baby in utero. After her delivery the mother returns to the clinic for subsequent treatment bringing the baby who also receives treatment when it is indicated.

February 19, 1924.

Dr. Alice N. Pickett,  
Frances Building,  
Louisville, Ky.

My dear Dr. Pickett:

Pursuant to our conversation concerning the prenatal work, I am sending you a report of the prenatal department for 1923 with the comparative figures for 1922. One



Obs. Service—Louisville City Hospital, 12-14-23—1-6-24 Dr. A. C. McCarty, Int. Dr. A. L. Johnson, Ext.

# Hospital Deliveries.

No.	Reg. No.	Para. Care	F. C. B. P. R. Toxaemia	Wass.	Prenat. Syph. Tr.	Ch. of Pavis	Ch. of Delivery	Pos.	Wt. Baby At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	54552	1	Clinic 140-68	Slight	Neg.	.....	Normal	Spontaneous	L. O. A. 6.8	Yes	Good	Good
2	54556	1	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	Breech	Yes	Good	Good
3	54555	2	No	.....	Neg.	.....	Normal	Spontaneous	R. O. A. 6.15	Yes	Good	Good
4	54563	1	Clinic 138-80	Slight	Neg.	.....	Normal	Spontaneous	R. O. A. 6.7	Yes	Good	Good
5	54572	1	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A. 7.10	Yes	Good	Good
6	54579	1	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A. 7.10	Yes	Good	Good
7	54577	2	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 6.7	Yes	Good	Good
8	54613	3	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 7.5	Yes	Good	Good
9	54619	4	No	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 8.9	Yes	Good	Good
10	54512	7	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 7.15	Yes	Good	Good
11	54616	1	Clinic 130-58	Slight	4 Plus	.....	Normal	Spontaneous	R. O. A. 6.1	Yes	Good	Good
12	54644	1	Clinic 164-54	Slight	Neg.	.....	Normal	Spontaneous	R. O. A. 9.5	Yes	Good	Good
13	54657	1	Clinic 130-70	Slight	2 Plus	.....	Normal	Caesarean	L. O. A. 8.9	Yes	Good	Good
14	54669	2	Clinic Normal	.....	Neg.	.....	Normal	Version	L. O. A. 8.1-2	Yes	Good	Good
15	54713	6	Clinic 140-70	Slight	4 Plus	.....	Normal	Spontaneous	L. O. A. 8.8	Yes	Good	Good
16	54696	6	No	.....	Neg.	.....	Normal	Spontaneous	R. O. P. 8	Yes	Good	Good
17	54575	4	Clinic Low	.....	Neg.	.....	Normal	Version	L. O. A. 5.15	Yes	Good	Good
18	54723	1	No	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 6.12	Yes	Good	Good
19	54772	6	No	.....	4 Plus	.....	Normal	Spontaneous	L. O. A. 8.1	Yes	Good	Good
20	54762	3	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	Breech	2 Mo.	Dead	Dead
21	54812	1	No	.....	Neg.	.....	Normal	Spontaneous	Breech	5.12	Living	Good
22	54829	3	Clinic Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A. 8.8	Yes	Good	Good
23	54814	1	Clinic Low	.....	Neg.	.....	Narrow	Spontaneous	L. O. A. 4.10	Yes	Good	Good
24	54798	4	No	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 6.10	Yes	Good	Good
25	54878	3	No	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 5.11	Yes	Good	Good
26	54890	1	No	.....	Neg.	.....	Normal	Forceps	L. O. P. 6.12	Yes	Good	Good
27	53806	8	Clinic 160-70	Slight	Neg.	.....	Normal	Spontaneous	R. O. A. 6.12	Yes	Good	Good
28	54935	3	Clinic 160-100	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A. 4.13	Yes	Fair	Good

## Home Deliveries.

29	3	No	Clinic	.....	.....	.....	.....	Spontaneous	L. O. P. 7 ?	Yes	Good	Good
30	3	Clinic	120-60	Slight	Neg.	.....	Normal	Spontaneous	L. O. A. 6.8 ?	Yes	Good	Good
31	8	Clinic	130-72	Slight	Neg.	.....	Normal	Spontaneous	R. O. A. 6.2 ?	Yes	Good	Good
32	3	No	Clinic	.....	.....	.....	.....	Spontaneous	L. O. A. 1.8 ?	Yes	Good	Good
33	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A. 5.8 ?	Yes	Good	Good

No. of Clinic cases 22.  
No. of Non-Clinic cases 11.  
No. of Maternal Deaths 0.  
No. of Foetal Deaths 1.  
No. of Puerperal Infections 0.

No. of Clinic H. B. P. cases 10.

No. of Toxaemia cases  
Slight 9.  
Moderate 1.  
Eclampsia 0.

No. of Maternal Syphilis 7.  
No. of Retroversion on Discharge 5.

of the outstanding things in the report to me is the comparison between the infant deaths this year and last.

In 1922 we lost twenty-four infants, while in 1923 we lost only eight. Of these twenty-four deaths in 1922, fifteen were still-born while only five were still-born in 1923. In 1922 there were six pre-mature births and only two in 1923.

I cannot help but feel that the mother and child's clinic is playing an important part in reducing pre-mature and still births.

Yours very truly,

Bettie W. McDanald,  
Superintendent  
Public Health  
Nursing Assn.

#### DR. A. C. McCARTY'S SERVICE

We are reporting this month the service of Dr. A. C. McCarty. It was a light service as to the number of patients probably due to the fact that it covered the Christmas and New Year holidays when mothers are anxious to remain in their homes. I am happy to report however, the cases though relatively few were of an unusual happy outcome. It will be seen from the table that we had no maternal deaths and only one fetal death (case 20). This was a case of a 6 months fetus weighing only 2 pounds.

#### SYPHILIS.

Four mothers this month gave a 4-plus Wasserman. Of these, one had 16 prenatal antisyphilitic treatments of Neo-salvarsan and Mercury; one had seven treatments, one had only one treatment and one had none. All these babies were born at term in good condition with no evidences of lues.

One mother gave a 3-plus, she had had 2 prenatal treatments, her baby was born at term in good condition except for some scaliness of the skin. One mother gave a 2-plus, she received 12 treatments. Her baby was born in good condition. One mother gave a 1-plus Wasserman. Following our routine for "no treatment for less than 2 plus" she received no antisyphilitic treatment. Her baby was born at term. It weighed less than 6 pounds but was otherwise apparently normal.

#### FORCEPS.

Case 26. Hospital No. 54890. Para 1. Dr. McCarty, Interne; Dr. McConnell, Staff.

This is not a clinic patient. Her external measurements were 23-26-19 1-2. No internal measurements were recorded. The dilatation of the cervix required 3 days. Low forceps were applied because of arrested pro-

gress during the 2nd stage. The baby weighed six (6) pounds four (4) ounces. The mother and child were discharged in good condition.

#### VERSIONS.

Case 14. Hospital No. 54669. Para 2. Dr. McCarty, Interne; Dr. McConnell, staff. This patient came to clinic. She gave a 4-plus Wasserman and received one injection of neo-salvarsan. She was also positive for G. C. Her pelvic measurements were 23-28 1-2 -20-11, arch fair, spines good. The first stage required 13 hours. After one hour and 40 minutes of 2nd stage pains version was performed. The reason for this interference was dystocia due to cephalo pelvic disproportion. The baby's weight was 8 1-2 pounds. Mother and child were discharged in good condition. They were referred to Dr. Young's venereal department..

Case No. 17. Hospital No. 54575. Para 4. Dr. McCarty, Interne; Dr. Pickett, Staff.

A clinic patient. The pelvic measurements were normal. The patient entered the hospital December 16. The presenting part was floating above the brim, the position breech. The ineffectual pains continued at irregular intervals for ten days. The dilatation remained 2 fingers. On the 25th the head was presenting but floating. The abdomen was strapped in order to bring the long axis of the child into relation with the birth canal. On the next day no improvement was seen in the character of the pains on the descent of the head. The dilatation remained 2 fingers. A bag was inserted into the uterus and immediately, before the inflation with fluid, we had quite a profuse hemorrhage. By this we suspected we were dealing with the low implantation of the placenta which later was proven to be the case, though we could not feel the margin through the 2 finger dilatation. Our bag had ripped up the edge of the placenta from the uterine wall. The bleeding stopped as suddenly as it started. We filled the bag and kept careful watch on the fetal heart for evidence of concealed hemorrhage. All symptoms remained satisfactory and the bag was left in situ till dilatation was completed. At that time the margin of the placenta could be felt low on the left uterine wall. The pains following the expulsion of the bag were unsatisfactory and the baby was delivered by version. The baby weighed 5 pounds and 15 ounces. Mother and child were discharged in good condition. Uterine inertia was the only cause we could assign for the dystocia in this case.



# Hospital Deliveries

No.	Reg. No.	P. C. Care	B. P. R. Toxemia	Wass.	Prenatal Syph. Tr.	Ch. of Pelvis	Ch. of Del.	Pos.	Wt. Baby	At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	54936	1 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.7	Yes	Living	Good	Good
2	54711	1 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Yes	Living	Good	Good
3	54982	3 No	.....	1-Plus	.....	Normal	Spontaneous	L. O. A.	8.0	Yes	Living	Good	Good
4	55001	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.7	Yes	Living	Good	Good
5	55028	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Yes	Living	Good	Good
6	55043	8 Clinic	.....	Neg.	.....	Normal	Spontaneous	Breech	3.8	6 Mo.	Dead	Good	Dead
7	54776	8 Clinic	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	9.8	Yes	Living	Good	Good
8	55027	1 Clinic	Slight	Neg.	.....	Gen. cont.	Spontaneous	L. O. A.	7.12	Yes	Living	Good	Good
9	35054	1 No	Pre-Eclam.	Neg.	.....	Normal	Version	L. O. A.	6.14	Yes	Living	Good	Good
10	35069	2 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.7	Yes	Living	Good	Good
11	55060	11 Clinic	.....	4-Plus	4 Sal.	Normal	Spontaneous	L. O. A.	11.6	Yes	Living	Good	Good
12	55035	9 Clinic	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.9	Yes	Living	Good	Good
13	55091	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	9	Yes	Living	Good	Good
14	55116	6 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.9	Yes	Living	Good	Good
15	55159	3 Clinic	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	7.2	Yes	Living	Good	Good
16	55201	3 Clinic	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	7.1	Yes	Living	Good	Good
17	54854	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.7	Yes	Living	Good	Good
18	55230	1 Clinic	Normal	Neg.	.....	Normal	Spontaneous	L. O. A.	2 ?	6 Mo.	Dead	Good	Dead
19	55256	6 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.12	Yes	Living	Good	Good
20	55282	3 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	2 ?	5 Mo.	Dead	Good	Dead
21	35283	1 No	.....	4-Plus	None	Normal	Spontaneous	L. O. A.	7.10	Yes	Living	Good	Good
22	55287	4 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Yes	Living	Good	Good
23	55309	2 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	1.12	4 Mo.	Dead	Good	Dead
24	55303	2 No	.....	4-Plus	None	Normal	Spontaneous	L. O. A.	7	Yes	Dead	Good	Dead
25	55581	9 No	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.12	Yes	Living	Good	Good
26	55113	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.4	Yes	Living	Good	Good
27	55370	3 Clinic	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	9.15	Yes	Living	Good	Good
28	55379	1 Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.5	Yes	Living	Good	Good
29	55367	1 Clinic	Moderate	Neg.	.....	Gen. cont.	Spontaneous	L. O. A.	7.9	Yes	Living	Good	Good
30	55377	1 No	Low	Neg.	.....	Normal	Spontaneous	L. O. A.	6.4	Yes	Living	Good	Good
31	55378	3 No	.....	Neg.	.....	Gen'l. Cont.	Cesarean	R. O. P.		Yes	Living	Good	Good
32		Home Deliveries..											
33	2	No	.....	.....	.....	Normal	Spontaneous	L. O. A.	7 ?	Yes.	Living	Good	Good
34	5	Clinic	Low	.....	None	Normal	Spontaneous	L. O. A.	7 ?	Yes.	Living	Good	Good
35	2	No	.....	4-Plus	.....	Normal	Spontaneous	L. O. A.	6 1-2	Yes.	Living	Good	Good
36	3	No	.....	.....	.....	Normal	Spontaneous	L. O. A.	8	Yes.	Living	Good	Good
37	4	Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8	Yes.	Living	Good	Good
38	8	No	Slight	.....	.....	Normal	Spontaneous	L. O. A.	7 1-2	Yes.	Living	Good	Good
39	2	No	.....	.....	.....	Normal	Spontaneous	L. O. A.	6 1-2	Yes.	Living	Good	Good
40	11	Clinic	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	9	Yes.	Living	Good	Fair
41	2	Clinic	Normal	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Yes	Living	Good	Good
42	3	Clinic	Normal	Neg.	.....	Normal	Spontaneous	L. O. A.	7 1-2	Yes	Living	Good	Good
43	10	Clinic	Normal	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Yes	Living	Good	Good

No. of Clinic cases 24.  
 No. of Non-Clinic cases 19.  
 No. of Maternal cases 0.  
 No. of Fetal Deaths 5.  
 No. of Puerperal Infections 0.

No. of Clinic H. B. P. cases 9.  
 No. of Toxaemia cases { Slight 6.  
 { Moderate 3.  
 { Eclampsia 0.

Non-Clinic Pre-Eclampsia 1  
 No. of Maternal Syphilis 4.  
 No. of Retroversion on Discharge 2.

## CAESAREAN SECTION.

Case 13. Hospital No. 54657. Para 1. Dr. McCarty, Interne; Dr. McConnell, Staff.

A clinic patient. Wasserman 2 plus. 12 prenatal antisyphilitic treatments. Her pelvis was generally contracted and the abdomen so large and tense that she was x-rayed to rule out multiple pregnancy. There was, however, only one large child. After 8 hours of active labor, the head failed to engage and a Caesarean Section was done. A living baby weighing 8 pounds 9 1-2 ounces was delivered. Profuse bleeding per vagina during the operation endangered the life of the patient but she later made a complete recovery and both mother and child were discharged in good condition.

## BREACH.

Case 20. Hospital No. 54762. Para 3. Was perhaps a case of induced abortion at 6 months. The position of the fetus was that of frank breech. The delivery was spontaneous and the baby still-born. The woman ran a temperature ranging from 101-101.6 for 3 days but later had an uneventful convalescence.

Case 21. Hospital No. 54812. Para 1. Dr. McCarty, Interne; Dr. Pickett, staff. No clinic case. Character of pelvis normal. The 1st stage covered 31 hours, the second 45 minutes. The delivery was spontaneous. The baby's weight was 5 pounds and 12 ounces. The mother and child were discharged in good condition.

## TWIN

CASE 32. HOME DELIVERY. No prenatal care. Dr. Payton, Externe; Mr. Gardner, Student.

When the attendants arrived the patient was in such active labor that there was no time for a careful abdominal examination and no diagnosis of multiple pregnancy was made. Living twin babies were delivered 10 minutes apart, both in L. O. A. position. Their respective weights were 4 pounds 8 ounces and 5 pounds 8 ounces.

## DR. A. L. JOHNSON'S SERVICE

37 Wasserman tests were made on this service. Six of the out-door patients did not have their blood tested. Four of the 37 cases gave a 4-plus. Cases 11 and 32 were delivered at term of perfectly normal babies. The former had four injections of neo. the latter had no treatment at all. Cases 21 and 24 received no prenatal treatment. Both women miscarried and both babies were lost.

## ONE VERSION FOR PRE-ECLAMPSIA

CASE NO. 9 Hospital No. 55054. Dr. Johnson, Interne; Dr. McConnell Staff. This patient had no prenatal care. Our out-patient men were called in to the home to deliver her. They recognized the case as one of pre-eclampsia and under Dr. Johnson's advice she was brought into the hospital. She was a para 6, who gave a history of having been in labor from 10 to 14 days at each of her former deliveries. The first child was delivered by forceps and all her babies were abnormally large. On admission to the hospital she had been in labor about 70 hours. The membranes ruptured 42 hours before. Her external measurements were good, but the baby seemed unusually large. The head was floating above the brim, the back was to the left. Cervix showed 3 fingers dilatation. The systolic blood pressure was 180. She had marked oedema of hands and tongue and she gave a positive history of blurred vision and dizziness with occasional headaches. Six hours after admission she was successfully delivered by version. The baby weighed 10 pounds. Mother and child were discharged in good condition.

## ONE CAESAREAN SECTION

CASE NO. 31. Hospital No. 55338. Dr. Johnson, Interne; Drs. Speidel and McConnell, Staff.

This patient, a blind colored woman, had a caesarean section in 1922 done by Dr. Speidel at the City Hospital the indication being dystocia due to a generally contracted pelvis with a disproportionately small outlet. She had no prenatal care in this pregnancy. Was admitted after having been in labor about 14 hours. Preparations for a Caesarean Section were immediately begun. A living baby weighing 6 pounds and 4 ounces was delivered through a high Davis incision. At the request of the patient, she was sterilized by resection of the tubes. A superficial infection of the wound prolonged the convalescence so that she was discharged on the 28th day. The baby was in fair condition though it had not regained its birth weight on discharge.

**Epidemic Encephalitis.**—Borgherini's extensive experience has demonstrated that the symptoms of epidemic encephalitis are fully as grave in the cases with a mild primary phase as in those with a stormy onset. He explains the disease as an essentially chronic affection with phases of improvement suggesting complete recovery; but the virus persists in the nerve centers. The tardy manifestations are not so much sequelae as symptoms of a still active process, notwithstanding the regressive character of the special symptoms and their mutability.



## ORIGINAL ARTICLES

THE ELECTROCARDIOGRAPH: ITS  
VALUE AND LIMITATIONS.\*

By EMMET F. HORINE, Louisville

Since the introduction of the electrocardiograph into clinical medicine the conception of diseases of the heart has been revolutionized. This is particularly true with reference to irregular action of the heart, but it is gradually becoming true with reference to diseased hearts beating regularly. Appreciation of this latter fact is not given the attention which it rightly deserves.

Electrophysiology is not of recent origin despite the fact that the perfected clinical electrocardiograph is less than twenty years old. An investigation of the history of electrophysiology shows that Galvani in 1792 described experiments which initiated the study of animal electricity. Crude and inaccurate as his experiments appear to us today still they attracted a great deal of attention and served as a stimulus to other workers. However, little actual progress was made until the middle of the nineteenth century when du Bois Reymond began his studies with muscle nerve preparations. Later he used a fine galvanometer and was able to obtain currents from his own muscles by placing his fingers in two cups of saline solution connected with the galvanometer.

Kolliker and Mueller were able in 1856 to demonstrate rhythmic current variations in the frog's heart. But it remained for Waller in 1889 to demonstrate a method by which action currents from the human heart could be photographed. His method was inapplicable for clinical use but it paved the way for more accurate and less complicated procedures.

In 1901, Einthoven, a Dutch physiologist, announced his invention of the most sensitive electrical instrument known which he termed a "string galvanometer." The "string" is made of a minute quartz filament which is rendered electrically conductive by being covered with platinum or silver. It is so fine that it is barely perceptible to the unaided eye. This fibre is vertically suspended by supports midway between the poles of a powerful electromagnet. Two powerful microscopes are used, the first one to focus a beam of light on the string and the second one to magnify the shadow of the string and project it on the moving film in the camera.

The patient who is to be examined either places his hands and left foot in separate

bowls containing saline solution or has electrodes covered with saline saturated cloths placed on his forearms and left ankle. Insulated wires are attached to the electrodes and conduct the currents to the switchboard of the electrocardiograph. A switch is arranged to throw the currents coming from the right arm and left arm through the string if it is desired to secure a record of lead I. Likewise lead II may be taken by causing the currents from the high right hand and left foot to pass into the string; and from the left hand to the left foot for lead III. Ordinarily records are made of leads I, II, the deflections being different in each lead. When the feeble electrical currents from the heart pass through the fibre, deflections are produced which, after a magnification of approximately 900 times, are photographed. The photographs are termed electrocardiograms and represent wonderfully legible and accurate accounts of the heart's activity.

From an electrocardiogram the following facts can be learned concerning the action of the heart:—

- (1) Rate of the auricles;
- (2) Rate of the ventricles;
- (3) Point of origin of the stimulus for each contraction whether normal or ectopic;
- (4) Preponderance of one ventricle over the other;
- (5) Normal or faulty conduction through the bundle of His and its branches.

Further the electrocardiogram will frequently suggest the presence of a myocarditis. In addition electrocardiograms are of great value in observing drug effects. For example in the use of digitalis at times the full therapeutic effect is obtained only when mild symptoms of toxic effect are observed. In the electrocardiogram full digitalization is shown by inversion of the "T" wave and this appears prior to the toxic symptoms. Therefore the dosage and treatment can be more accurately controlled by electrocardiographic observations.

The electrocardiograph offers us extremely valuable information in the study of diseases of the heart. There is no one of us who hasn't made many mistakes when checked against an accurate method. The more we check our clinical impressions against an exact procedure and thus learn our mistakes the fewer mistakes will be made. The majority of cardiac irregularities can be diagnosed clinically when typical and uncomplicated. However, when one turns to text books dealing with the ordinary clinical recognition of the arrhythmias without the aid of graphic methods one is impressed with the guarded statements made by the authors.

\*Read before the Jefferson County Medical Society.

Such qualifying phrases as "it is sometimes possible to diagnose"; "the pulse is usually rapid"; "can sometimes be recognized", et cetera, appear quite often. These phrases can indicate only one thing, namely that the authors realized there were many cases which could not be properly diagnosed without the aid of graphic methods. Personally I always try to make a clinical diagnosis first and then resort to the electrocardiograph as the last word in the cardiac irregularities and as quite an aid in other types of heart disease.

It is my purpose to very briefly discuss and attempt to illustrate some of the conditions so clearly shown and diagnosed by the aid of the electrocardiograph. In the first place an electrocardiogram consists of three phases, namely, an auricular complex, a ventricular complex and finally the rest period. Einthoven suggested certain letters to designate the normal deflections as follows: "P" is a small upward deflection which denotes auricular activity. "Q-R-S" indicates the passage of the impulse into the ventricles with "T" occurring at the time of ventricular contraction. With the end of "T" diastole begins, the string being quiescent though in many cases a final and not very well marked deflection may be observed known as the "U" wave. In normal hearts the constancy of the deflections is remarkable but their appearance and amplitude are never exactly alike in two individuals. As Lewis at one time suggested electrocardiograms might well be used for purposes of identification. The horizontal lines represent millimeters and are produced by etched marks on the lens of the camera. The vertical lines are "time lines" which are 1-25 of a second apart made by a toothed wheel actuated by a tuning fork and small electric motor.

To discuss every type of irregularity would be far beyond the scope of this paper. Really since it is such a well known fact that the electrocardiograph elucidates perfectly the arrhythmias, it would seem unnecessary to more than mention this. However, there is one condition, in fact the only irregularity which cannot ordinarily be elucidated by electrocardiograms; namely, pulsus alterans. My purpose is largely to show wherein the electrocardiograph will afford material aid in diagnosing heart disease accompanied by regular heart action.

#### MITRAL STENOSIS

Cases of mitral stenosis offer at times difficulty because of the faintness of the murmur. The "P" wave which, as previously stated, is the result of auricular contraction should not be over 3 mm. in height and not over 0.1 sec-

ond in width. An abnormally high or wide "P" wave with or without notching indicates auricular hypertrophy and constitutes good evidence of mitral stenosis.

#### MYOCARDITIS

Electrocardiograms are of considerable value in myocardial involvement. True it is that some hearts which are diseased may yield normal records; but it is safe to state that by far the majority of diseased hearts will show abnormalities. The heart rate may be regular and not necessarily fast but low amplitude of the deflections; notching and widening of the "Q-R-S" complex; inversion of "T" in leads I and II may be taken as definite evidence of myocardial involvement. Other abnormalities may occur either alone or combined but it will be impossible to go into detail concerning all of them. From the above the importance of electrocardiography is apparent.

#### PREPONDERANCE

The electrocardiogram is frequently suggestive of preponderance of the one ventricle over the other. A tall "R" deflection in lead I and a deep "S" in lead III is indicative of left ventricular preponderance. A deep "S" in lead I and a tall "R" in lead III denotes right ventricular preponderance. At first it was stated that such deviations as just mentioned meant left and right hypertrophy respectively but by careful comparative measurements it was found that the condition was frequently a preponderance and not always an actual hypertrophy. Certainly electrocardiograms showing preponderance are of value in doubtful cases. Particularly, in such cases, careful fluoroscopic examination should be made and also teleroentgenograms.

#### HEART-BLOCK

Ordinarily when one hears the term "heart-block" mentioned one instinctively thinks of the very slow pulse rate accompanying complete block. Clinically with a ventricular rate of forty or below one can feel fairly safe in diagnosing complete heart-block though I have seen one case with a rate of forty which was proven to be nodal rhythm. But many cases even of complete block do not present such a slow rate and of course cases with low grades of block almost always have a normal or only slightly lowered rate. Normally the interval between auricular and ventricular action is from .12 to .21 of a second. An interval over .21 of a second constitutes the lowest grade of heart-block and shows that the heart muscle in the neighborhood of the bundle of His is involved. With the discovery of such a low grade of block the next step is to determine whether inflamma-



tory, degenerative, syphilitic, or due to some other factor. Then proper treatment can be instituted at a time when some measure of success may be expected. Later when the condition has progressed to the stage of partial or to complete dissociation the prognosis is decidedly worse. In any stage the electrocardiograph offers a perfect means of diagnosis.

#### AURICULAR FLUTTER

In flutter the auricles are contracting at rates varying from 200 to 350 per minute and perfectly regularly. Ventricular response is usually regular at half the auricular rate. Less often the ventricles respond to either every third, fourth, fifth or sixth auricular contraction. At times the ventricles respond in an irregular fashion and then it is impossible without the electrocardiograph to differentiate such a condition from auricular fibrillation. Yet it is very necessary as regards treatment to be certain of the diagnosis. Digitalis is the drug which should be used in either flutter or fibrillation but the method of its employment is not the same in both conditions. In flutter digitalis is given in full doses until the patient is fully digitalized after which the drug is discontinued. This rapid digitalization customarily converts the flutter into transient fibrillation which is followed by normal heart action. In fibrillation digitalis is given in full doses until the ventricular rate is between sixty and seventy, then the dose is reduced but continued for an indefinite period to maintain the ventricular rate at this level.

#### CONCLUSIONS

It is far from my intention to convey the impression that the electrocardiograph is without limitations. Its very bulk, its cost and its difficulty of proper manipulation make it an instrument which will never find its way into the office of anyone who is not doing special work in heart disease. In so far as the interpretation of simple electrocardiograms is concerned, one will find this extremely easy. But complicated records are frequently found which may tax the ability of the most competent. Care must be exercised in not attempting to read more from the records than our present knowledge actually justifies. When rightly employed I know of no instrument at present used in clinical medicine which, when correctly interpreted, will give more exact knowledge concerning so complicated an organ as the heart. The electrocardiograph is an indispensable instrument if an accurate diagnosis of heart disease is desired.

Thus it will be seen that from an electrocardiogram a definite diagnosis of any type

of arrhythmia, with one exception, can be made. Also valuable information is given concerning the state of the muscle mass plus its capabilities. No brief is held for the electrocardiograph to the exclusion of the older methods such as palpation, percussion and auscultation. These older methods must still be conscientiously employed, but in addition, for an accurate appraisal of cardiac conditions, electrocardiograms constitute a very valuable part of a thorough clinical examination. The electrocardiograph is here to stay for I am sure you will all agree that the more exact the diagnosis, the more intelligent the prognosis and the more rational the treatment.

#### DISCUSSION

**Wm. A. Jenkins:** This is the intensive age of medicine. Many new procedures are being introduced to aid us in diagnosis. The electrocardiograph is one of the newest and most promising of these procedures.

It is very unfortunate, that with the great bulk of the medical profession, there is a tendency to take one of two extreme views regarding the utility of mechanical aids to diagnosis. Many medical men (chiefly clinicians of wide experience) are inclined to look upon all mechanical aids as "playthings," considering them to be of very little value. This attitude we know is a mistaken one. On the other hand there are many physicians, who in their enthusiasm and in their desire to be considered modern and up to date follow blindly the all-too-premature announcements of "good obtained" and "facts discovered" by mechanical aids to diagnosis. Such men rely upon these statements entirely in casting their prognosis and in planning their therapeutic schedules. This, it is needless to say, is likewise a mistaken conception. The truth, as usual, lies somewhere between these two extremes. Sir James McKenzie of London, who is the father of instrumental examination of the heart, and Dr. Lewis, his celebrated pupil, who popularized the electro-cardiograph and Dr. S. Calvin Smith of this country, who not only understands the technical use of the electro-cardiograph, but is likewise a finished clinician, all say that the electro-cardiograph can not take the place of, nor do away with the tried and proven methods of interrogating cardiac conditions. These gentlemen say that single, or occasional electrocardiographic readings are liable to be misleading. These tracings to be of real value should be taken under varying circumstances of rest and exercise and are to be carefully compared with the clinical findings in each case. Dr. Smith, in his book, distinctly states "that the man who is willing to commit himself on the question of prognosis from electro-cardiographic readings alone is an unsafe and injudicious individual."

The intelligent use of the electro-cardiograph will always be limited, comparatively speaking, to a small number of men. It will never be available to every physician everywhere, for obvious reasons. In this country, at the present time, we find this instrument only in the very large centers of population and even here its use is generally in connection with teaching hospitals. The men who do this class of work are, as a rule, young men perhaps they have been in medicine only a matter of three to five years. They are known on account of their laboratory work, rather than for their clinical experience. Only the very smallest possible number of these men have ever had the opportunity to study a series of cardiac cases over a number of years, say ten, fifteen or even twenty years. Permanent and lasting results are to be obtained only by close correlation of clinical and instrumental methods. Finally it is up to the entire medical profession to always present an open alert mind on this whole question. We must be ever ready to avail ourselves of new truths or definite and reliable information when such material is finally presented to us.

**H. N. Leavell:** I think we are to be congratulated on having a man with an electro-cardiograph in our midst who has had so much clinical experience in dealing with the heart as has Dr. Horine. He has been a very close observer for a great many years clinically in the administration of anesthetics and otherwise, and he comes to us now with an instrument of precision which we must certainly recognize as being of considerable value.

In what way is the electrocardiograph of value? We must take into account the factors that enter into normal cardiac activity before we can see where the electrocardiograph will help us. First, we must have a normal cardiac muscle; second, we must have the requisite amount and character of blood; third, we must have normal peripheral resistance; fourth we must have a normal nerve supply, and fifth we must have normal coronary arteries. Without these factors the heart cannot perform its function.

Where does the electrocardiograph come in? As an instrument of precision I should say it was concerned directly with the cardiac muscle itself, with the cardiac impulse, and with its nerve supply. If it does that we might say it makes exact two very prominent factors in normal cardiac activity; if it will do that it does two-fifths of our clinical work for us. Of course we cannot expect the electrocardiograph to tell us how much blood there is in the body or its quality; we cannot expect the electrocardiograph to tell us about the coronary arteries; but it does tell us the manner of transmission of the cardiac waves, or impulses; that it does tell us of the character of the heart muscle itself, is enough to make

the instrument of great value, and I am glad to see that the instrument is in the hands of a competent man like Dr. Horine, and of course there are others in the city too, for that matter, and we are not speaking disparagingly of them. We should take advantage of this instrument whenever we can, particularly in cases of cardiac irregularity where we are "up in the air" so to speak as to the cause.

We know that heart block is a condition that may occur from many extraneous circumstances, —gastro-intestinal disturbances, anything that will stimulate the vagus nerve will cause heart block. Now the question arises where does this block end, or where is the impulse ended? The electrocardiograph will tell us that. I think it will tell us whether it is merely from the heart itself. If it does that it is an instrument of great value clinically. Then if we have a condition where there is auricular fibrillation and we think we must give digitalis. The point is how far must we go with digitalis? If the electrocardiograph will tell us in time to prevent heart block from the use of digitalis, that is sufficient reason or excuse for its existence and sufficient reason for consultation with a gentleman who has such an instrument, because digitalis is capable of doing a great deal of harm. We cannot tell just what it is going to do. The patient may be going along perfectly smoothly for days and days, the pulse being apparently all right, the edema disappearing, the kidneys acting properly, then with a little increase in exertion the heart simply "goes to pieces" and we do not know where we are, we do not know whether to increase the digitalis or discontinue it. Electrocardiographic reading a few days before these accidents occurred would have told us we were at the point where such accidents might appear and we could have guarded our patient against any over-exertion, etc. It is a recognized fact, of course, that we do not give digitalis to people who are running the streets; people who are traveling or taking a great amount of exercise, that goes without saying; but the fact remains that the electrocardiograph will tell us before anything else will just where we are and just how much of the drug we should give.

Another important item is that the electrocardiograph is an instrument of precision in the way of determining the character of the heart muscle itself. I mean by that whether there is degeneration going on. You cannot tell that always by listening, you cannot tell by getting the impulse, you cannot tell by exertion at all times. It is impossible to tell the exact condition of the heart muscle and how much force it has. If you can with the electrocardiographic reading demonstrate conclusively that the heart muscle is performing its function properly, you can know then just exactly how much strain can be put on such a heart. In cases of renal degeneration and in



all extraneous conditions where the heart ultimately becomes involved I think we should take advantage of the two-fifths of the clinical value of the electrocardiograph in figuring the conduction of waves or impulses through the nervous system and the condition of the heart muscle itself. These are the two most important factors.

**J. W. Heim:** I think we are fortunate in having an instrument like the electrocardiograph in Louisville to which access may be had in case of necessity. The electrocardiograph bears the same relationship to cardiac lesions as does the roentgen-ray to fractures. We may diagnose a fracture clinically and reduce it with the feeling that the fragments are in proper apposition, but by using the roentgen-ray we will know much more about whether or not approximation is correct. Also in the diagnosis of fracture we are much more certain about the condition after roentgen-ray examination. We can listen to the heart and tell that it is irregular in its action but we cannot measure it accurately. The electrocardiograph will tell us exactly why the heart is irregular, and it certainly seems to me it would also indicate the line of treatment which should be undertaken. I believe the electrocardiograph is going to be of great assistance to us clinically. I know I would like to have electrocardiographic readings in many cases where anesthetics are administered to patients who have cardiac lesions. Without this instrument the best we can do is to listen to the heart and if no gross irregularity is noted we take the chances. Accurate diagnosis such as Dr. Horine can make with the electrocardiograph would be of great assistance to surgeons and anesthetists.

**E. F. Horine (closing):** As I tried to emphasize in my paper, the electrocardiograph is merely one aid in arriving at a correct diagnosis of heart disease. Certainly no one can expect an instrument of this type to make a complete diagnosis and clinical methods must still be used; but much can be learned concerning cardiac activity and function from electrocardiographic examinations.

When the roentgen-ray first came into use, which was only a little more than twenty years ago, I recall having heard many of the older men say they could tell as much about fractures as they wanted to know by palpation and manipulation of the limb and that they did not need to rely upon the roentgen-ray evidence. Today there is hardly a surgeon who would attempt to treat a fracture without having one or more roentgenograms made. As with the use of the x-ray in fractures, so I think the time is coming when the electrocardiograph will be used in the majority of heart cases as a means of a definite diagnosis. But it will not displace the well known older clinical methods, it is simply one of the aids in a correct cardiac diagnosis.

## PREGNANCY COMPLICATED BY UTERINE FIBROMA: POST-OPERATIVE INTUSSUSCEPTION: NEPHRITIS: UREMIA FATALITY.\*

L. WALLACE FRANK, Louisville.

H. V., a female, aged thirty-two years, married nine months, came under observation July 19th, 1923. Past history unimportant; influenza complicated by pneumonia during winter of 1922. Menstruation regular until four and a half months ago, since then amenorrhea.

Present illness began five weeks after last menstrual period, when patient noticed lump in right lower abdomen. At first this seemed about the size of a hen's egg; had since enlarged steadily and rapidly. The tumor was not distinctly painful, but she said there was more or less "aching" in that region. Her breasts were enlarged and appeared full. Appetite good; no indigestion; intestinal functions regular. She had complained of frequent headache during last five weeks. Polyuria present; nocturnal two or three; less frequency during day; no dysuria. No cardiac nor pulmonary symptoms. Some swelling of legs and feet noted during the last year.

Physical examination: Patient apparently a healthy young woman. Blood pressure 146-100. Head, eyes, ears, nose and throat negative. No enlargement of thyroid; heart and lungs normal; breasts full. Lower abdomen somewhat distended; uterus reaches umbilical level. On right side evidently attached to uterus was a hard nodule about four inches in diameter. Bimanual examination showed that this tumor moved freely with uterus.

The patient had been seen by four physicians before being brought to Louisville; all agreed in the diagnosis of pregnancy; two of them believed she had an ovarian cystoma; the other two were uncertain about the nature of the tumor. We thought she might have a right ovarian cyst, but the hardness of the tumor was suggestive of uterine fibroma. The diagnosis of pregnancy was confirmed.

On July 20th, the day after admission, blood examination showed: Hemoglobin 85 per cent, erythrocytes 4,500,000, leucocytes 10,300, differential count practically normal. Urinalysis: Reaction acid, albumin one plus, specific gravity 1017, otherwise negative. A two inch exploratory incision was made in midline below umbilicus. The pregnant uterus extended to above the umbilicus. In the

\*Clinical report with exhibition of specimen before the Louisville Medico-Chirurgical Society.

right cornu was a fibroma size of a grape fruit, and one or two small nodules in anterior wall. Nothing further was done on account of pregnancy; wound closed in layers; three silkworm gut stay sutures used.

Post-operative history: On July 22nd, two days after operation, the patient had a slight nasal hemorrhage. The 24th she complained of pain in left leg, phlebitis developed, but there was no fever. The leg became considerably swollen, was elevated and suitable bandage applied. The 26th patient sat up in bed and the 28th was in a chair. Pulse and temperature normal; blood pressure 150-96.

August 2nd, or thirteen days after operation, the patient began complaining of pain in back and abdomen, she also had nausea and vomited. The wound was dressed, healing complete, stitches removed. August 3rd she still complained of abdominal pain and was seen by Dr. Gavin Fulton in consultation. Nausea and vomiting persisted. Temperature 99.2 F., pulse 88. August 4th blood examination showed Hemoglobin 85 per cent, erythrocytes 4,500,000, leucocytes 8,400, polymorphonuclears 81, lymphocytes 19. Urinalysis: Reaction alkaline, specific gravity 1032, albumin 2 plus, acetone 3 plus, diacetic acid 2 plus, indican 4 plus, pus 8 to 10 cells to field, occasional hyaline and granular casts. The patient was given an enema of milk and molasses without result except small amount of blood-stained fluid. During the afternoon abdominal distension increased, vomiting persisted, and that night Dr. Fulton and myself concluded that the patient had acute intestinal obstruction. The abdomen was again opened (August 4th) with the following findings:

Six inch incision through left rectus muscle near midline. There was considerable bloody fluid in the cavity. Examination revealed intussusception of about eight inches of first portion of ileum into itself some of which had become gangrenous. The mesentery at this point is very short and could not be delivered through incision; it was ligated high in left quadrant. Clamps were applied and two and a half feet of ileum resected and end-to-end anastomosis completed. The patient was given 500 c. c. normal saline solution intravenously before being returned to bed. She reacted well from the operation. August 5th she was voiding two or three ounces of urine at a time and some intestinal peristalsis was noted. The following day there was definite peristalsis, she passed gas and feces, but the urine was diminished in quantity and she complained

of dimness of vision. On the 7th she passed only two ounces of urine during twelve hours; there was no longer any abdominal distension; spontaneous abortion occurred. She was given 500 c. c. normal saline solution intravenously and 500 c. c. under the breasts. August 8th her temperature was 101 F., pulse 120. Very little urine was voided. She was given 1000 c. c. normal saline solution with 10 per cent glucose intravenously, also a dose of castor oil. Beginning August 7th hot packs were used twice daily and purgatives administered at intervals. On August 10th she seemed much improved, but on the 11th she became stuporous. Her blood urea August 8th was 115, on the 11th it had declined to 96. She gradually became comatose and died August 14th from uremia.

One of the most interesting features about this case was the high ileal intussusception which occurred without any apparent cause. We have frequently seen intussusception of the ileum into the large intestine, but in this instance only the ileum was involved.

The fatality is to be regretted but it was absolutely unavoidable. The complications of nephritis, toxemia of pregnancy, and two anesthetics within a relatively short time, proved more than the kidneys could withstand.

## DISCUSSION

**Gavin Fulton:** The case reported is exceedingly interesting from several points of view. The intussusception was very high in the ileum; it occurred without apparent cause following the primary operation; it had no connection whatever with the large intestine. The fact that the patient developed high blood pressure during her pregnancy leads me to suspect long before she had toxic nephritis.

The operation for intussusception was an emergency procedure; the patient reacted normally, passed gas and feces, the abdomen became flat, and she showed improvement for several days. She then developed severe toxic symptoms with the blood picture described by Dr. Frank.

I believe death occurred from toxemia of pregnancy superimposed upon chronic interstitial nephritis. It was unfortunate that after making a satisfactory surgical recovery the patient should have developed fatal uremia.

**L. W. Frank** (closing): In a retrospective survey of the case reported the question arises whether abortion should not have been induced early; in fact, this was considered, but as it would have added another source of trauma we concluded it was best to wait.



## LACERATIONS OF THE CERVIX\*

By J. B. LUKINS, Louisville

From statements made by obstetrical and gynecological authorities, and also from personal observation and experience, we know that more or less cervical laceration occurs in every case of labor. Labor may be normal in every respect, yet, owing to the dilatation necessary for extrusion of the child, cervical laceration is inevitable. The injury may vary from a small "nick" in the mucosa to a deep laceration extending through the cervix, the vaginal vault, even to the pelvic brim and into the peritoneal cavity.

Lateral or bilateral lacerations are the most common, but radial tears (one to five in number) may occur in any part of the cervix. Sometimes a segment of the cervix is detached from the uterine body at the vagino-uterine junction; the entire cervix may be amputated and extruded as a ring of tissue.

From ancient times cervical lacerations have been recognized and described as: clefts of the cervix, cervical catarrh, ulceration, etc. During late years the terms erosion, eversion, hypertrophy, etc., have been used. Chronic endocervicitis is one of the most common gynecological affections. A simple, superficial laceration of the cervix which remains uninfected is attended by no symptoms and requires no treatment. However, infection of such lacerations seems to be the rule rather than the exception, and the complications which may arise are legion. The cervix uteri has been described as the "tonsil of the uterus and its adnexa." Metritis, salpingitis, ovaritis, broad ligament infection, etc., are recognized as logical sequella of endocervicitis.

In many instances gastritis of obscure origin has been traced to a lacerated and infected cervix. I recall one patient with chronic arthritis who was greatly improved after cure of the cervical infection. Cervical carcinoma usually originates in an infected laceration. It has been claimed that every woman who has cervical carcinoma has either borne a child or been subjected to intra-uterine instrumentation; but evidence can be produced by the majority of us to refute such a statement.

Let it be reiterated that unless a lacerated cervix becomes inflamed and infected no symptoms are produced and there is no reason for the institution of surgical treatment. The cervix may present two distinct lips with a deep notch between, yet without hypertrophy, cystic formation, discharge, or erosion,

there are no indications for repair. On the other hand, an extensively lacerated cervix which causes annoying and persistent symptoms, may show neither a notch nor distinct lips but appear as a rounded ball. Some of the worst cases I have been called upon to treat presented ball-shaped cervix. The shape is due to retraction and inflammatory infiltration which produces complete eversion of the lacerated portion with consequent obliteration of distinct lip outlines.

A mild, untreated vaginitis, during or prior to pregnancy, is often the source of infection after cervical laceration with resulting discharge and complications. Failure of lacerations to unite is due to eversion of the cervical mucosa which becomes irritated and infected by rubbing against the vaginal wall. Irritation causes increased excretion from the cervical glands and infection eventually destroys the cervical mucosa which is then replaced by cicatricial tissue; the ducts become obstructed and small nodules (nabothian cysts) develop. These minute cysts on palpation feel like shot of various sizes within the cervix. Induration and nodulation may lead to an erroneous diagnosis of malignant infiltration. If these nodules be punctured and subjected to pressure thick glairy mucus is extruded, leaving small cavities. In some cases the cervix is literally "riddled" with such cysts the condition being then known as cystic degeneration. Such a condition unrepaired or improperly treated is certain to be complicated by subinvolution, hypertrophy, and malposition. Occasionally cystic degeneration is more apparent than real, an accurate diagnosis can best be made by examining the patient in the knee-chest position. Such lesions are usually accompanied and aggravated by perineal lacerations with consequent loss of support of the pelvic floor. The persistent and annoying leucorrheal discharge is usually the symptom which causes the patient to seek relief.

The treatment of cervical lacerations by means of vaginal douches and the application of caustics, such as nitrate of silver, has long since been discarded. Likewise, the tampon and pessary are rarely of benefit and are often productive of harm. The proper treatment of cervical laceration is surgical repair.

From the days of Sims and Emmet until a few years ago the origin of leucorrhea was supposed to be in the endometrium, and most older surgeons have doubtless many times performed uterine curettage without benefit. Since it has been demonstrated that the discharge comes almost entirely from the cervical glands, it is obvious that curettage is not indicated as a curative measure.

\*Read before the Jefferson County Medical Society.

The first plastic amputation of the cervix was performed by Marion Sims, in 1861; and one year later T. A. Emmet performed the first successful trachelorrhaphy. These operations, emanating from such prominent sources, were accepted and practiced without question for more than half a century. Those of us who are fortunate enough to have been able to follow our patients subjected to the customary curettage and trachelorrhaphy, must admit that in a large proportion the leucorrhea and other symptoms are still present. This is convincingly revealed in a recent report by Leonard, from Howard Kelly's Clinic at the Johns Hopkins Hospital, who tabulated the immediate and end-results in all classic cervix amputations performed during the last twenty years.

Analysis of one hundred and twenty-eight complete post-operative histories, — from among four hundred cases, forced Leonard to conclusions "which were quite unexpected and in many ways disappointing." Nearly five per cent of the patients had serious post-operative hemorrhage, occasionally after established convalescence. Ten per cent suffered from decided augmentation of pre-existing menorrhagia or dysmenorrhea. Four-fifth of the women, in whom pregnancy might reasonably have been expected to follow the operation, remained sterile. On the other hand, fifty per cent of the pregnancies occurring after cervix amputation terminated prematurely, while among the few patients who progressed to term even a larger proportion experienced difficulty and prolonged labors. The operation in all cases consisted of the classic circular amputation, removing about three centimeters of the cervix above the external os.

Actuated by these "disappointing results" Leonard next tabulated the post-operative effects of trachelorrhaphy for comparative analysis with those of cervix amputation, concluding as follows:

The presence of marked endocervicitis should be considered as contraindicating simple trachelorrhaphy, for, although trachelorrhaphy may render a mild endocervicitis more amenable to treatment, it cannot be considered, like amputation of the cervix, a curative measure of this condition. Fertility is much more likely to follow trachelorrhaphy than amputation of the cervix. After amputation of the cervix the incidence of abortion and premature delivery is greatly increased, while trachelorrhaphy has no effect upon the course of subsequent pregnancy. Labor after cervix amputation is usually difficult, while after trachelorrhaphy it is nearly always normal; hence, amputation of the cervix is to be avoided in the childbearing

period, trachelorrhaphy being the operation of choice in properly selected cases.

Accepting these data from the foregoing authoritative source as a correct exposition of facts, the obvious deduction is that with chronic endocervicitis as the recognized pathologic indicator trachelorrhaphy is an inadequate, and cervix amputation an injurious, operation.

Such authorities as Williams, Edgar, E. P. Davis and others, believe amputation should not be performed during the child-bearing age because it is almost impossible for such women to later become pregnant, and when pregnancy does occur abortion is the rule. Very few patients after the operation ever become pregnant and progress to term without complications. The consensus of opinion is that more conservative measures should at least be tried.

Until about a year ago my practice was to perform ordinary trachelorrhaphy in almost every case where cervical repair was required. In unilateral laceration without marked complications nothing else is indicated; but if laceration is bilateral and extensive, particularly if cystic degeneration or other complications have supervened, this operation is not sufficient. To thoroughly curette the cervical canal and cicatricial tissue and apply iodine does not, in the average infected case, afford relief to all symptoms.

Dr. Sturmdorf, of New York, has devised an operation known as tracheloplasty which he claims meets every indication. To effect a permanent cure he believes the endocervical mucosa, from the external to the internal os, must be enucleated with preservation of the muscular layer, and in addition the denuded canal must be relined with mucous membrane. For the proper performance of his operation and to insure successful results he outlines three steps:

- (1.) Free liberation of an ample cuff of mucosa from the vaginal sheath of the cervix;

- (2.) Enucleation of the entire endocervical mucosa to the internal os. with preservation of the surrounding muscular layer;

- (3.) Inversion of the vaginal cuff into the cervical canal where it is held by anterior and posterior sutures of chromic catgut or silkworm gut.

These sutures are so inserted as to include the edge of the vaginal flap and draw it upward into the cervical canal to the internal os thus forming a new and perfect cervical lining. Both sutures should be placed before either is drawn taut or tied.

Occasionally it may be necessary to insert a suture on one or both sides, but if dissection has been thorough and the an-



terior and posterior sutures have been properly placed, this is usually not required. A narrow strip of gauze is removed the third or fourth day.

If silkworm gut sutures are used they should not be removed until the third week. I have performed this operation in several infected cases. It may not be ideal, nor is it suited to every case. It insures removal of the diseased tissue without disturbing the normal arrangement or function of the uterus. It does stop the discharge.

Post-operative examination of the cervix discloses a clean, round, healthy appearance, with little cicatricial contraction. Normal menstruation occurs after the operation and the results thus far in every way have been most satisfactory.

### PULMONARY EMBOLISM FOLLOWING PHLEBITIS.\*

By LAMAR W. NEBLETT, Louisville

Pulmonary emboli following acute infections are rather uncommon, for which we should be glad, as the prognosis in such cases is extremely unfavorable. The majority of the patients die very soon; but some develop pulmonary abscess, general sepsis, and die later. In the Mayo Clinic forty-seven deaths were reported in sixty-three thousand operations, most of them being almost instantaneous.

The cause of the condition is a foreign body; a particle of blood clot, fat or infected material floating in the blood vessel, partially or completely; the completeness of the obstruction and size of the area obstructed being the determining factors that divide the rapidly fatal cases from those that are to be prolonged. The virulence of the organisms, if any are present, and the vital resistance of the patient, furnish the prognostic index to the prolonged cases.

Pulmonary emboli usually follow operations in the pelvis, around the hemorrhoidal vessels, herniotomies, appendectomies, gallbladder operations, and from endocarditis, phlebitis, etc.

The cases I wish to report are as follows:

CASE: I. J. F., a male, white, American, aged thirty-six, laborer, weight 180 pounds, of good physical appearance. Examination of head, eyes, ears, nose, throat, chest, heart, lungs and upper extremities showed no abnormalities. Abdomen: very thick wall, slightly distended, rigid, pain in right lower quadrant, tenderness especially in right iliac fossa. Genito-urinary organs and lower ex-

trémities normal; no varicosities present. Temperature 101 degrees F., pulse 110, respirations 20; blood count, leucocytes 13,000. Pre-operative diagnosis: acute appendicitis.

Operation disclosed an acutely inflamed appendix; no free pus but surrounded by thick exudate; latter also found in iliac fossa. Abdomen closed without drainage.

On the third day the temperature was normal; the fourth day the patient left his bed and walked across the room; the fifth day he complained of "squeezing pain" in the calf of his right leg with slight swelling; the leg increased to almost twice its normal size within three days; pain extended upward to the groin where a distinct area of redness could be seen. The leg was elevated, cold applications used, and morphine administered to relieve pain.

After two weeks the patient returned home with the phlebitis much improved, but was advised to remain in bed until pain and swelling subsided. One week from that date, or four weeks after the operation, he walked out on the street and while ascending the steps on his return home was stricken with pain under the right arm and was carried into the house and placed in bed. I saw him fifteen minutes afterward and the following symptoms were noted: severe pain, dyspnea, cyanosis, cold perspiration, rapid pulse, complete shock. Treatment: strapped right side of chest, gave half grain morphine, and frequent inhalations of oxygen.

The patient coughed frequently during the next week, complained of severe pain, and expectorated red frothy fluid. At that time a slight pleuritic rub was evident in the mid-axillary line on level with the third and fourth ribs. The seventh day, after a violent paroxysm of coughing, he expectorated about six ounces of pus mixed with dark blood. Expectoration continued for ten days, gradually lessening, leaving a solidified area one inch in diameter, and he complained of periodic pain in that region.

After one year the phlebitis has improved but the patient still has pain and swelling of the leg on over-exertion.

CASE II. E. C., a female, white, American, thirty-five years old, was delivered of a healthy child, the delivery being normal in every way. On the sixth day of her puerperium she developed phlebitis in left leg. Parts affected superficial veins mesial side above knee. Her temperature ranged between 100 degrees and 101 degrees F. for three days.

Treatment: Cold applications, elevation of leg, and quietude. On fourth day without any apparent provocation or warning the patient had a violent paroxysm of coughing attended by severe pain in lower lobe of right

\*Read before the Jefferson County Medical Society.

lung. I was unable to obtain any history of excitement or exertion. The phlebitis was seemingly improving at the time of death.

Comment: Reisman (Clinics of North America, 1921 v. iv.) says phlebitis and thrombosis are caused by infection typhoid fever being the most common cause. He believes the pulmonary symptoms which sometimes accompany typhoid are due to small thrombi. Post-operative thrombi usually occur within ten days or two weeks.

Poulains (Journal Medical Science, Lille, France) reports a case of phlebitis with large abscess cavities or peri-phlebitic spots in the involved area, the patient dying from pulmonary embolism.

Rispa and Samiac (Toulouse Medical Journal) describes a case similar to the first one I have reported. They believe pathogenic bacteria penetrate the nervous system and become fixed on the internal wall of a varicose vein thereby causing a parietal lesion which may be the origin of a pulmonary embolus, while the parietal phlebitis remains latent only to appear some days later at the moment of complete venous obliteration.

W. A. Edwards (International Clinics) in reporting one of his cases says that a developed phlebitis is rarely responsible for pulmonary embolism and death, that it is the sudden loosening of the forming thrombus that cause the calamity. His patient did not survive long enough to show any recognizable symptoms of phlebitis. Ordinary phlebitis as seen at the bedside rarely causes fatal pulmonary embolism, but in that form of thrombophlebitis in which the thrombus forms as the first step of the process and is carried to the pulmonary circulation the results is usually promptly fatal.

The care of such patients is, I think, mainly prophylactic. When once they have an embolus surgical treatment is impractical. The Trendelenberg operation might save a few if the obstruction could be distinctly localized and removed. In severe cases death occurs before preparation can be made for aseptic removal. In latent cases there is just as much chance of overcoming the obstruction and subsequent infection, as in overcoming infection and damage following surgical intervention. In the event an abscess cavity forms it may be opened and drained and not allowed to progress to the stage of rupture into the bronchi and expectoration of the purulent material.

Prophylaxis: Patients likely to develop phlebitis or the formation of emboli should be given large amounts of fluid and guarded against violent movements during the early post-operative period. They should be turned from side to side and the head elevated as soon as possible. After phlebitis has de-

veloped all movement of the affected part must be interdicted. Massage is never indicated.

## DISCUSSION

**Charles Farmer:** My experience has been less fortunate than that of Dr. Neblett, as every patient with pulmonary embolism coming under my observation in either hospital or private practice has died. I have seen only one case in private practice. The patient was a woman who was operated upon for relief of pelvic disease. At the expiration of fifteen days, when she was about ready to leave the hospital, she developed sudden, severe pain in the chest and the nurse telephoned for me. Death occurred before I reached the hospital. I recall another patient seen with Dr. Whitlatch who developed pulmonary embolism two weeks after amputation of the leg because of injury sustained in an automobile accident. The patient survived only a few hours.

In all the cases of pulmonary embolism that I have seen death occurred so quickly that nothing could be done.

**Leo Bloch:** The only case of pulmonary embolism that has come under my personal observation was in a woman who had placenta previa. The usual preparations were made, version was practiced, hemorrhage controlled and delivery easily completed. Six hours later the woman suddenly developed severe pain in her right side and died within four hours.

The position of the patient after placenta previa is important, that is the head should be maintained much lower than the body. Many of these patients die from pulmonary embolism.

**L. W. Frank:** I agree with Dr. Neblett that in many cases the phlebitis which precedes pulmonary embolism is due to low-grade infection. Probably the most frequent site of the phlebitis is in the pelvic veins following operations on the female generative organs. The cases of emboli have been seen which terminated fatally followed operations on the pelvic organs especially hysterectomy. Emboli are occasionally noted following operations for varicose veins. I recall one case where the patient convalesced normally for ten days after the excision of varicose veins and the next day developed pain in chest, pleurisy, and later profuse bloody expectoration. The patient made a satisfactory recovery. As Dr. Neblett has said, in many instances pulmonary embolism is followed by a rapid fatal termination.

I know nothing more tragic than the sudden collapse and death of a patient when she is about ready to leave the hospital. Fatal pulmonary embolism occurs usually between ten and sixteen days, or about the time the patient appears on the road to recovery. I recall one patient who was dressed and preparing to leave the hospital, when she suddenly developed severe pain in the chest, she sat down in a chair, and within two minutes she was dead.



## HYPEREMESIS GRAVIDARUM: CASE REPORT.\*

By J. ALLEN KIRK, Louisville

July 12th, 1922, I was called to see Mrs. P. K. J., a primipara, aged twenty-three years, and found her confined to bed. Questioning elicited the history that she was two months advanced in utero-gestation and had been vomiting almost constantly for six weeks. She was unable to retain either food or water. Corpus luteum had been administered every third day. She was extremely nervous and bromides were given without improvement. I also continued the corpus luteum, cleansed the intestinal tract with laxatives, gave cerium oxalate with cocaine ( $\frac{1}{4}$  grain) every four hours, also practiced gastric lavage, but no benefit was derived. Her condition was no better, if anything she was growing worse; the urine had shown the presence of albumin and casts.

July 25th, the patient was removed to the Jewish Hospital in an ambulance. She was very weak, and on admission at eleven o'clock a. m. urinalysis showed the presence of albumin, acetone, diacetic acid, indican, many hyaline and coarse granular casts, leucocytes, a few erythrocytes, some bacteria. She was extremely nauseated and retching was constant although the stomach was empty.

July 26th, at twelve o'clock she was given a hot soapsuds enema followed by a nutritive enema of panopepton one ounce, sweet milk four ounces, eggs two ounces. Another nutrient enema at six p. m. and tea and crackers by mouth. Nutrient enemata retained. Tea, toast and lemonade by mouth; vomiting continued.

July 28th, the patient was catheterized, one ounce of cloudy urine being withdrawn. Urinalysis, albumin, acetone, diacetic acid present; indican absent; hyaline and coarse granular casts, leucocytes and erythrocytes, present.

July 29th, nutritive enemata continued. Soapsuds enema given with fair result. Patient still vomiting. Cocaine was given in sufficient amount to anesthetize the stomach but was without result. Urinalysis, albumin present; acetone small amount; diacetic acid absent, no casts. Patient refused bromide which she knew she had been taking, so we included this in the nutritive enemata and some results were obtained, i. e., it helped control her extreme nervousness.

July 31st, patient's condition growing worse, vomiting light greenish fluid. Different things were tried by mouth, liquid nourishment, ginger ale, canteloupe, etc., but

nothing remained in the stomach. She almost immediately vomited everything taken.

August 4th, I asked Dr. Sidney J. Meyers to see the patient with me. Urinalysis then showed albumin present, acetone large amount, many leucocytes. Blood count; leucocytes 8,000; erythrocytes 4,400,000; hemoglobin 100 per cent. Dr. Meyers and myself agreed that the pregnancy should be interrupted. She was accordingly taken to the operating room, the cervix dilated and the uterus emptied under nitrous oxide and oxygen anesthesia administered by Dr. W. Hamilton Long. When returned to bed her pulse was 150 and very weak. Every means known had been used, including packing of the vagina to elevate the uterus, but without favorable result.

After emptying the uterus the patient did not vomit for three days, and I thought perhaps this procedure had produced the desired result, but August 7th, she again vomited a large amount of thick yellow material.

August 11th, vomiting was severe and gastric lavage was practiced; the returned solution was greenish yellow.

August 14th, urinalysis showed albumin, acetone, indican a trace.

August 17th, the gall bladder was drained with Lyon tube, about 300 c. c. of dark bile being withdrawn. This procedure caused cessation of vomiting for two days. She vomited once on the 19th and not again until the 22nd. She was now able to take light diet, ginger ale, limeade, panopepton, etc.

August 23rd, urinalysis showed albumin present; acetone, diacetic acid, indican, casts, absent. The patient's condition was somewhat improved for three days, and the clouds apparently began to lift.

August 26th, urinalysis showed albumin, a slight trace; acetone, diacetic acid, indican, casts, absent.

August 27th, the pulse grew weaker, respirations difficult, urine suppressed, involuntary defecation. Proctoclysis with Fisher's solution started.

August 28th, the patient voided small amount of urine, involuntary defecation, difficulty in swallowing, semi-conscious, much mucus in the throat.

August 29th, she seemed to be somewhat improved.

August 30th about eighteen ounces of urine withdrawn with catheter. Urinalysis showed the presence of albumin, acetone, few large hyaline casts, leucocytes numerous. Pulse very rapid and weak. Digifolin 1 c. c. given every four hours. Patient taking some nourishment.

\*Clinical report before Jefferson County Medical Society.

August 31st, patient growing rapidly worse, pulse 142, respirations 38 to 40; digifolin and pituitrin administered; oxygen given at intervals. Catheterized urine cloudy with very foul odor; about twenty-two ounces in twenty-four hours.

The patient continued to grow worse and death occurred at 12:40 p. m., September 1st.

Necropsy showed the pelvic organs normal; the uterus had contracted to natural size. The left kidney was about six times its normal size; right kidney about four times normal in size; both kidneys very red. Pathological diagnosis: acute nephritis.

The question is: Did this woman have nephritis prior to the time we saw her, or was it produced by the pregnancy?

### DISCUSSION

**Edward Speidel:** In severe hyperemesis of pregnancy the condition is so severe that radical measures should be adopted at once, and in my estimation these measures should imply withholding everything by mouth, administering food, water and medicine by the rectum. Furthermore, I consider it important that the patient be isolated in the hospital, in charge of a competent trained nurse, and that above all the husband be kept away entirely. Oftentimes the mere presence of the husband seems to induce vomiting.

I had under my care in one of the hospitals the wife of an army officer, and whenever he obtained a leave of absence to visit his wife, she invariably had an attack of vomiting afterwards. On certain occasions when he was unable to make his customary visit she remained comfortable without vomiting.

In regard to the administration of corpus luteum: I do not believe any effect is produced unless it is given intravenously. I have been using it intra-venously for some time and good results have been secured. I would therefore, suggest that method of administration. I am also using intra-venous injections of ten per cent glucose solution about every third day and have found this of benefit.

The latest addition to the treatment of toxemia of pregnancy, as mentioned by Dr. Kirk, is the use of the duodenal tube. This method was introduced by Dr. Paddock, of Chicago, who claims it represents a distinct advance in the treatment of such cases.

Another point of which has been discussed lately is the correction of any mal-position of the uterus. We should not only see that the uterus is in proper position but keep it there by the introduction of a pessary if necessary. The pessary serves a double purpose: first of all it maintains the uterus in its natural position which is an important factor in the man-

agement of hyperemesis gravidarum, and second its presence in the vagina seems to also exert a favorable suggestion influence.

In the case reported I am inclined to think the renal complication was secondary to the toxemia.

It is important in hyperemesis gravidarum, if the case comes to autopsy, to examine the liver for specific pathology which might account for the symptoms. In many instances the same destructive changes as in acute yellow atrophy of the liver have been found to exist.

**H. A. Davidson:** Dr. Kirk stated that in the case he drained the gall bladder. A few years ago Dr. Matas of New Orleans, La. introduced the procedure of opening the gall bladder and inserting a tube through the common duct into the duodenum, then introducing saline solution in the amount of one to three pints every twenty-four hours, in the treatment of cases such as Dr. Kirk has described. He claimed this method was effective in severe cases of nephritis which did not respond to any other form of treatment. He found that he was able to save the lives of his patients in that way. He reported several cases where the kidney had practically ceased to function where life was saved by his method.

I would like for Dr. Kirk to tell us in closing whether he used bicarbonate of soda in gastric lavage and also for introduction into the duodenum in the case he reported.

**Chas. H. Whitlatch:** I recently had under observation a patient who vomited almost constantly during the first four months of her gestation, in fact at times could retain neither food nor fluids. Like Dr. Kirk, I tried everything known in the way of medication and treatment. Urinalysis showed the presence of diacetic acid, acetone and albumin but no casts. While it appeared that the woman might at any time become comatose, yet in the absence of urinary casts, which would indicate either a previous renal lesion or a toxic nephritis, it was thought safe to continue for a while longer the methods being employed. I had a specialist see her in consultation and he advised continuation of the treatment I had already instituted, but suggested if there was no improvement within a reasonable time the uterus should be emptied. Before resorting to this procedure I had another consultation and the second consultation also thought it would be safe to wait a week or two longer. This plan was followed and after the fourth month the woman began to improve although she still had occasional attacks of vomiting. Examination now shows absence of acetone and albumin in the urine.

The question always arises as to the cause of hyperemesis gravidarum, i. e., whether it is the liver, the kidney, or some reflex nervous ele-



ment. In grave and rapidly fatal cases I believe the liver is at fault. If we really knew the primary factor operating in the production of hyperemesis we could better direct our therapeutic measures.

The question also arises as to just how far it is safe to carry the patient before emptying the uterus. I believe the consensus of opinion is that, in the presence of diacetic acid, albumin and casts, the patient not yielding to recognized methods of treatment, it is a mistake to delay emptying the uterus. Dr. Kirk in his case did exactly what I did, i. e., he hoped to overcome the symptoms by applying the methods of treatment recognized as being most effective.

I do not believe there is any way to determine in the case reported, whether the kidney lesion existed prior to pregnancy, or whether it was the result of pregnancy. If the latter then it is probable early emptying of the uterus might have saved the life of the patient.

**J. A. Kirk (closing):** I examined the patient's liver at necropsy and it was found normal. The gall bladder was drained with the Lyon tube; the abdomen was not opened for this purpose.

As to the question of emptying the uterus: The patient objected strenuously to having the uterus emptied if there was any chance of overcoming the symptoms without resorting to this measure. Under these circumstances I did not empty the uterus until her condition became so grave that her life was in serious danger. I then asked Dr. S. J. Meyers to see her with me; he agreed that the uterus should be emptied which was done the same morning

---

**The Samuel D. Gross Prize:** Fifteen Hundred Dollars. Essays will be received in competition for the prize until January 1, 1925. The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

---

At the invitation of the Massachusetts Institute of Technology, a working conference in Health Education is to be held June 23-28 at Cambridge, Massachusetts. The Conference called by the Health Education Division of the American Child Health Association will be limited to 100. Registration must be made in advance. Address Emma Dolfinger, 370 Seventh Avenue, New York City.

## SODIUM FLUORIDE POISONING.

### CASE REPORT\*

By A. R. BIZOT, Louisville

December 15th, 1922, at five-fifty in the morning, I was hurriedly called by telephone, the message given me being that "an error had been made in taking a dose of medicine." At six-ten a. m. I arrived upon the scene, about eight blocks distant, and found that a full teaspoonful of sodium fluoride had been mistaken for Rochelle salts and ingested at five-twenty a. m.

The patient, J. K., a male, aged sixty-five, had the appearance of being in complete shock. Within five minutes after he had swallowed the potion he became nauseated and suffered gastric pain immediately followed by copious vomiting and purging with extreme weakness and profuse perspiration over the entire body. He was still vomiting and purging on my arrival; the vomitus consisted of slightly yellowish mucus, and the stools were rice water in type such as noted in colitis. My kingdom for an antidote! I had never heard of the ingestion of sodium fluoride!

Thanks to memory and college association with the departed and lamented Professor L. D. Kastenbine, his words of long ago concerning the affinity of fluorine for calcium flashed into my mind. I asked for some face powder, and they brought me tinted rice powder; of prepared chalk and lime they had none. I was about to make inroads with a hammer on the plastered walls when a small boy stated that there was "a keg containing some slacked lime in the stable" and a cup full was produced. A level teaspoonful of this was stirred into a glass of water and, after the larger particles had precipitated, was given the patient to drink. He had hardly decanted the last drop when, as if by magic, he heaved a great sigh of relief from gastric pain!

Quietude now ensued with opportunity for observation of clinical signs. He ceased to perspire, became relaxed, was still pale, pupils contracted almost to pin point, pulse perceptible at 80, respirations unimpaired at 20, temperature 98 degrees F. After a few minutes he expressed himself as greatly relieved. With the exception of intervals of three to five minutes, however, excruciating pain occurred with spasmodic fixation of the arms; this would then subside only to recur in the lower extremities being worse in the left leg. Tremors were present especially in the web between thumb and index finger.

---

\*Read before the Jefferson County Medical Society.

The patient being fairly comfortable I seized the opportunity to beat a hasty retreat home to consult the literature on sodium fluoride, but I met with defeat as there was none except as to use of drug in the arts, and that it seemed to be against everything—antispasmodic, antiperiodic, antiseptic—with dosage of 1-12th to 1-6th of a grain. (Merck). I consulted three leading chemists by telephone and it was all new to them; they could give me no advice but acquiesced in the treatment.

At eight o'clock A. M. with stomach tube I returned to the scene of action; there was no material change in the symptoms and the patient seemed disposed to be left alone. However, I was permitted to attempt use of the stomach tube; it could be introduced but the spasms and retching would not permit its retention. Five or six more glasses of lime water were given, he seemed at ease, and the clinical symptoms continued, particularly the pin-point pupils.

I visited the patient again at nine fifteen a. m. and found the following: Pupils contracted but not pin-point in type; pulse almost imperceptible, 80 to 84; respirations 20; cyanosis of a peculiar type, deepest on the scalp and gradually lessening along forehead and face to chin and submaxillary area. There was an apparent hypnotic status and he complained of intermittent disturbance of vision. Cyanosis and vision improved when he was aroused to elaborate speech, but when quietude was resumed they returned. The pulse at the wrist could not be felt and it was decided to administer digitalin. Before doing this, however, I telephoned Dr. C. G. Forsee who saw the patient with me and agreed in the treatment. We gave 1-50th grain of digitalin hypodermatically at ten-thirty a. m. When we later left the patient had a full radial pulse of 80 to 84, respirations 20, with amelioration of all symptoms. We were to return within a few hours. A telephone message at twelve o'clock stated that he was sleeping and all seemed well; at one-thirty p. m. he was still asleep.

About two o'clock p. m. Dr. Forsee came to my office to make inquiry about the patient and after being informed of the status of affairs he considered it unnecessary to return. At two-fifteen p. m. there was a hasty call to come at once and we rushed to the patient's home only to find that he had expired at two forty-five p. m. His pupils were not widely dilated as is usual in death. The bladder was catheterized (after death) and twelve drams of urine obtained. He had not voided since seven a. m., thus making the accumulation only twelve drams in seven and

three quarter hours. Urinalysis showed the following:

Quantity nine fluid drams; color deep reddish yellow (muddy); sediment moderately abundant; specific gravity not determined; urea 8-10th of one per cent; albumin heavy; sugar none; chlorides, sulphates, phosphates, urates, normal.

Microscopic: Casts hyaline and granular numerous especially the latter; pus a few cells; blood, uric acid, oxalates, none; epithelium few cells all granular and showing disintegration; bacteria, numerous micrococci urea but none lying; spores of mould but no development. (G. L. Curry.)

In response to our inquiry addressed to Merck & Company, New York, about the antidote for sodium fluoride, the following was received: Replying to your letter of the 16th instant requesting information regarding an antidote for sodium fluoride. We regret to advise that we can find no statements in the literature at our command for such an antidote. We would add, however, that since magnesium fluoride is practically insoluble in water and in dilute acids, magnesium sulphate might prove serviceable as it would give rise to the insoluble magnesium fluoride. (Merck & Co.)

The following information is excerpted from available literature: Sodium fluoride in small quantity is a natural constituent of bone, teeth, milk and eggs. It is absorbed in the liver, skin and bones; in the latter it is found in crystalline masses in the haversian canals causing them to become hard and brittle.

In doses of .001 to .002 milligrams per kilogram of body weight it causes reduction in the red cells and an increased coagulability of the blood. It is powerful depressant of blood pressure through its action on the vaso-motor centers. It has been used as an antispasmodic, antiperiodic in malaria, rheumatism and epilepsy; but its principal use is in glass etching, and as an antiseptic and germicide. A solution of 1 to 500 will delay putrefaction, and 1 to 200 will destroy all bacteria. It has been used as a preservative of beer, the amount in a single bottle being harmless; but habitually taken produces neuralgias, tremors, weak heart, phlebitis, painful micturition and bony impairment due to loss of calcium.

Under the name of monatin (silicofluoric acid) prepared by the Montana Works in Stehla on the Elbe, it is sold as a disinfectant and preserver of meat and butter. In England the same salt is known as Salaber, in Germany, as Buttersals, in France as Crysolein, where it is used for hardening butter; it is called Remareol in Switzerland



where many were at one time made ill by drinking wine preserved with it. Ammonium fluoride under the name of Noxolyth is used as a tartar solvent in dentistry and also for treatment of pyorrhea alveolaris.

In this country it is the principal ingredient in Peterman's anti-roach and vermin destroyer; it is also sold over the counter by druggists by its correct name with impunity. The dosage given by various writers varies from 1-12th to 1 grain.

**Tolerance:** Rosenau says for mammals sodium fluoride is not very toxic, and gives as the fatal dose 0.5 gram per kilogram of body weight. Therefore in a man weighing 150 pounds the toxic dose would be 510 grains. Our patient weighed about 160 pounds and took a teaspoonful of the drug. We have weighed such an amount and found the weight 180 grains.

In the same article Rosenau speaks of a ten-year-old-girl who took a teaspoonful, mistaking it for Rochelle salts, which caused her death. Just what constitutes a fatal dose we are not prepared to say, but we believe it is many-many times multiplied under Rosenau's proportion, for our patient within a few minutes after its ingestion rejected the entire stomach contents, and even after giving the antidote the small amount absorbed caused death.

The toxicology seems to be amply confirmed by the history of our case. There were noted irritation of the alimentary tract, increased salivation, nausea, vomiting, purging, cardiac depression, fibrillary muscular tremors merging into spasmodic contraction, and failure of respiration. We have seen no mention made anywhere of the contracted pupil in cases of this character.

We have been able to collect the following specific cases of fatal poisoning due to the ingestion of sodium fluoride: In England, Tappener, 1882, one; L. A. Waddell, 1883, one. In America, Rosenau, 1914, one; Baldwin, several, number not stated. In Germany Berg, one; Fischer, eight—one suicide, two murders, five accidental. This makes a total, including our case, of thirteen, plus Baldwin's cases of unknown number.

Stanton and Kahn report the case of a child aged nineteen months with recovery. Peterman's roach powder ingested upon full stomach; quantity taken not stated.

The antidote for this form of poison is undoubtedly calcium (which forms the insoluble calcium fluoride; and magnesium forming by double decomposition into magnesium fluoride. Of course in the treatment of sodium fluoride poisoning cardiac and respiratory stimulants are indicated.

During my investigation of this subject a

letter was written to the Surgeon General of the United States, and his reply may be of some interest: "It is certainly beyond doubt that it is of common interest that the law should interpose a bar upon the unrestricted sale of sodium fluoride and other fluorine compounds. The increase in cases of poisoning from sodium fluoride should serve as a warning to us." (L. R. Thomas, Surgeon in Charge.)

## DISCUSSION

**Wm. E. James:** Dr. Bizot told me of this case this afternoon when he visited my laboratory for the purpose of searching my files of the journals of the American Chemical Society to ascertain if anything could be found in them about the poisonous effects of sodium fluoride or the proper antidote. Nothing of importance bearing on the question could be located. While I have never before heard of a case of sodium fluoride poisoning, I can well understand how it might happen through its combination with the free acids of the stomach such as HCl.

I am not a pathological chemist and my experience with sodium fluoride and kindred drugs is from the standpoint of their use in manufacturing and engineering industries. While sodium fluoride is but slightly soluble in water, most sodium salts are very soluble, and its solubility would be increased by the admixture of acids. I know little about the rapidity of its absorption or its effect on the tissues of the body. You are all familiar, however, with the very bad effects of hydrofluoric acid when it comes in contact with the skin. I know from experience, however, that the solubility of the more insoluble fluoride of calcium is markedly increased by the addition of a small amount of acid and the absorption would probably be quite rapid owing to the presence of free HCl.

The only thing I could suggest as an antidote for sodium fluoride poisoning would be to make the stomach alkaline by giving lime water.

**J. G. Sherrill:** Dr. Bizot has brought before us a subject which is pregnant with food for thought, and I think we are to be congratulated on hearing his report. Those of us who had the privilege of listening to the lectures of the late Professor Kastenbine, and who are in consequence familiar with his chemical work and teachings, no doubt appreciate fully his ability along this line. I can recall the statements he made about the halogen group of compounds, and the poisonous and irritating effects fluorine and chlorine on the skin.

Any escharotic, irritating or poisonous substance which when ingested is quickly absorbed and has a direct destructive action on the tissues, soon reaches the kidneys and in a short time may cause sufficient necrosis of the renal cells to impair function and produce urinary signs such as found in the case reported. It

is not unreasonable, therefore, to believe that sodium fluoride made soluble by the admixture of HCl entering the blood stream would reach the kidneys in sufficient quantity to destroy renal function. Sodium fluoride is also highly irritating to nervous tissues and the cardio-vascular system.

While cases such as reported are so rare that few of us will ever encounter them, that fact renders the subject of greater interest. The only disappointing feature in Dr. Bizot's report is that, after prompt recognition and treatment, which at first seemed to be beneficial, that his patient did not recover.

**A. R. Bizot, closing:** I do not wish to be understood as criticizing the government, but sodium fluoride and other poisonous compounds are recommended and permitted to be sold by druggists with impunity for the extermination of insects of various kinds particularly of the beetle types. This has created the impression that such drugs are not dangerous to mammals. I believe this is a most serious mistake. It is known that sodium fluoride is very soluble in water, but is rendered more soluble by the presence of dilute acids. It is possible that free hydrofluoric acid is liberated by the gastric juice.

Incidentally I might mention that another presumably insoluble salt being sold as a rat exterminator, and which is supposed to be entirely harmless to human beings, is barium carbonate. In this vicinity only a few days ago a lady died from the ingestion of barium carbonate taken by mistake, death probably being due to its conversion into barium chloride by free HCl in the stomach.

The government asks us to destroy rodents and vermin and powders dangerous to human life are being sold for that purpose. The idea that sodium fluoride is not poisonous to human beings is probably due to the fact that some of the packers several years ago preserved there meat with a solution of this drug. The so-called "embalmed" meat used during the Spanish-American war in 1898 was treated in that way. The strength of the solution used I do not know, but the fact that many soldiers were made ill at that time was no doubt due to the presence of ammonium fluoride in the meat.

The letter I have reproduced from the office of the Surgeon General is suggestive. The unrestricted sale of powders containing fluorine compounds is dangerous. Peterman's roach powder and other similar preparations are kept in households where they are readily accessible and may at any time be mistaken for other medicines as happened in the case reported. The wonder is that such accidents do not more frequently happen.

When poisoning from sodium fluoride occurs the only known antidote is the salts of calcium.

## ADENO-CARCINOMA OF COLON, REPORT OF CASE WITH BRIEF REVIEW.\*

By E. R. GERNERT, Louisville

While adenomas may occur in many situations, Mallory states that adenomas of the uterus and rectum are to be regarded with suspicion; and of cancers of the intestines they occur most often in the rectum; less common in ileo-caecal region, in duodenum and elsewhere. Of these the malignant adenoma and the adeno-carcinoma are the most frequent.<sup>2</sup>

The tumor herein reported occurred in region of splenic flexure, in a male, adult, white, aged 62 years.

J. C. Admitted to Hospital September 2, 1922.

Occupation: Painter. Family History: Father died of tuberculosis at age of 40. Wife has tuberculosis. Past History: On July 7, 1922, was admitted to Hospital complaining of indigestion and dyspnoea. Present condition dates back 19 months during which time patient has had attacks of acute pain in upper abdomen with considerable distention. For past few weeks has had diarrhoea.

Physical Examination: Thorax rounded with a backward deformity of thoracic vertebrae.

Heart: Mitral systolic murmur heard over apex. Abdomen: Slightly distended.

Temperature: Ranged from 97 degrees F to 99.6 degrees F. Pulse: Ranged from 70 to 120. Respiration: Ranged from 18 to 28. Diagnosis: Mitral regurgitation; emphysema; arterio-sclerosis; toxic diarrhoea and kyphosis. Discharged August 12, 1922.

Present Illness: Same as above, i. e., indigestion, dyspnoea, abdominal distention and diarrhoea.

Physical examination: Practically as above with addition that mass is palpable under left costal margin and extends downward to level of umbilicus.

Laboratory Findings: (a) Urinalysis, negative. (b) Feces: Contains much mucus, but no blood. (c) Wassermann, negative. (d) X-Ray: 9-25-22: Examination shows rectal pouch to fill readily, but unable to force barium into sigmoid. There is apparently some obstruction at this point. 9-26-22: Gastroscopic Examination: Reveals no 6 hour residue. Barium meal apparently in small intestine. Stomach shows no evidence of filling defect or other pathology.

From the Department of Pathology, Louisville City Hospital, and University of Louisville, Medical Department. Read before the Jefferson County Medical Society.



Roentgenogram shows 48 hour meal in descending colon, sigmoid and rectum. Apparently no evidence of marked obstruction. Temperature ranged from 97 degrees to 101.2 degrees F; pulse ranged from 80 to 118; respirations ranged from 20 to 28.

Diagnoses: Mitral regurgitation; enteritis (tuberculosis?); arterio-sclerosis. Patient died October 9, 1922.

#### AUTOPSY FINDINGS

Autopsy (A 22-82) performed 3½ hours post-mortem. Body is that of a poorly developed and poorly nourished white male, adult.

Abdomen distended and gives tympanitic note on percussion.

Peritoneal Cavity: Contains about 1,000 cc. of dull greenish gray fluid. Pelvic peritoneum dull purplish to dull greenish gray. Posterior and lateral portions of abdominal peritoneum dull purplish gray and covered with a dull greenish gray substance. Considerable of this material is found posterolaterally to liver and stomach. In region of upper pole of left kidney is an opening 5 mm. in diameter filled with a dull greenish gray substance and communicates with peritoneal cavity. Greater omentum dull purplish gray. Mesentery dull purplish gray, mottled with yellow and contains firm nodules 2-10 mm. in diameter.

Kidneys: WT: Right, 100 gms.; left, 100 gms. Anteromedial aspect of upper pole of left kidney is surrounded by dull greenish gray substance which does not come into direct contact with kidney.

Gastro-Intestinal Tract: Stomach and small intestines greatly distended with gas. Large intestine distended and somewhat boggy. Scattered areas of intestinal tract dull purplish gray mottled with dull greenish gray. Entire descending colon is invaginated into sigmoid in such a manner that splenic and sigmoid flexures are obliterated, these portions of large intestine being practically straight. Pressure on intussuscepted portion of gut causes a slate colored, semi-solid substance to exude from between the walls at proximal end. In lower rectum a firm nodular mass is palpable. Intussuscepted segment measures 33 cm. On reducing intussusception the outer wall of descending colon and sigmoid is dull reddish gray and covered with a slate colored, semi-solid substance for a distance of 23 cm. Remainder is pale gray. Intussusception contains no adhesions. As 10 cm. of invaginated gut is not discolored, it appears that this much of invagination is post-mortem, remainder being ante-mortem. At end of intussusceptum is an opening 25 mm. in di-

ameter which communicates with lumen of intestine and slate colored, semi-solid material (bismuth stained feces) is found in same. Uninvaginated gut measurer 62 cm. When intussusceptum is opened, gut shows a tumor mass 90x60x30 mm. attached to mucosa of first portion of descending colon. This is mass which was felt in lower rectum. It is somewhat lobulated, firm, dull purplish gray and covered with a pinkish gray, thick material. Cut surface purplish gray, mottled with yellowish gray, granular, slightly blood-stained and creamy substance adheres to knife on continuous scraping. Mucosa of intussusceptum reddish gray and rough.

#### ANATOMICAL DIAGNOSES

Peritonitis, acute generalized, with effusion; perforation of colon; intussusception; adeno-carcinoma of colon; peri-nephritic abscess; simple cyst of kidney; chronic myocarditis (?); arterio-sclerosis; slight sclerosis of mitral valve; fibrous pleural adhesions, right; enlarged mesenteric lymph nodes; chronic aortitis; kyphosis.

#### MICROSCOPIC EXAMINATION

Mass in colon: Sections of mass show atypical arrangement of epithelial cells in solid, irregular masses and in abundant glandular formation. In a few epithelial cells are mitoses. Some of tumor glands show necrosis and contain leucocytes which also show degeneration. Stroma shows an irregular infiltration chiefly with lymphocytes. Microscopical diagnosis: Adeno-carcinoma.

Lymph nodes show no evidence of metastasis.

#### DISCUSSION OF CASE

The case reported is interesting because of the size and location of the tumor and the often obscure symptoms manifested by such tumors.

As to diagnosis this is often difficult, as the symptoms are often vague and fail to force themselves upon the notice of the patient until it has reached the inoperable stage. About the only points which would lead to diagnosis are:

1. Continued diarrhoea which does not yield to medical treatment.
2. Palpable mass on digital examination.
3. X-Ray.
4. Proctoscopic examination.

Treatment: Surgical if diagnosed early. Palliative relief must be resorted to if too late to take advantage of operation.

#### REFERENCES

- Mallory—Principles of Pathologic Histology, 1914, p. 362.  
Mallory—Principles of Pathologic Histology, 1914, p. 388.  
Keen's Surgery, 1910, Vol. IV., p. 158.

## LOCAL ANESTHESIA: WITH CASE REPORTS\*

By E. S. ALLEN, Louisville

The ability of the living body to react to stimuli affecting its nerve terminals, so as to cause feeling or perception, is called sensation. Pain is the sensation feared by man, the alleviation of which is constantly attempted by the physician. It, however, acts as a conservator of the species by giving evidence of illness in the human body. It is a severe but necessary law of nature. It appears not only as a beneficial monitor, but also as a useless tormentor. Pain alone held surgery shackled for ages and it would be interesting to run back over history and note the numerous and crude attempts at alleviation of pain. The desire to relieve pain is as old as the history of man. Surgery remained in its infancy until it was possible to operate without pain.

Tradition tells us of the attempts of the Egyptian, Chinese, Greek and Roman physicians to induce sleep artificially. They knew of the stupefying effects of the narcotic juices of plants and used them in form of drinks to relieve the pain of patients undergoing surgical operations. During the middle ages, narcotic inhalations in the form of sponges soaked in the juices of mandrake root, hemlock, henbane and poppy were used to induce sleep. At the same time attempts at local anesthesia was practised, alligator fat and the powdered skin were applied to the operative field, compression of nerve trunks was tried. The Arabian physician used a tourniquet for compression anesthesia and to control bleeding. Cold was used for the local relief of pain, and is the only one of the ancient remedies now in use. With the invention of the hypodermic needle in 1853 by Alexander Wood, morphine and tincture of opium were injected in the tissues to obtain local anesthesia. With the advent of general anesthesia, patients demanded that operations performed without pain, and little was attempted under local anesthesia until the discovery of cocaine in 1884, mono-chlorohydrate, p-amino-benzoyceyethylaminouhanols. However, on account of the toxicity of this drug, its field was restricted to minor operations.

Its greatest field was in the hands of eye, ear, nose and throat men and dentists. Many local anesthetics were tried with unsatisfactory results until the discovery of novocain, and its one objection was the short duration of anesthesia. The introduction of adrenalin was a powerful adjunct and widened the

scope of operations, permissible with local infiltrations and stimulated the development of nerve blocking, by which it is possible to undertake a tremendous amount of major work in general surgery and meet the requirements of every surgical act. There is scarcely an operation in ophthalmology, laryngology, rhinology and otology that cannot be performed under local anesthesia. The most important conquest of nerve blocking is in the department of dentistry.

In gynecology, field block, sacral and spinal anesthesia widens the field of application for operation, where a general anesthesia is an added risk. The use of morphine and scopolamine as a preliminary measure is conducive to a placid mental state, lessens the fear of pain and produces a state subject to silent and quiet co-operation.

Advantages; it is not dangerous to life, it gives complete muscular relaxation, it leaves undisturbed the central nervous system upon the integrity of which depends all the vital functions of the body. Operative shock is considerably lessened if not entirely eliminated. Surgical convalescence is rendered shorter than after the administration of general anesthesia. It does not interfere with the respiratory organs, thereby lessening respiratory complications. It does not affect the gastro-intestinal tract, there is no post operative nausea and vomiting, no acute distention of the intestine with consequent paresis. Normal diet is not interrupted if the type of operation permits. However, the principal advantage of local anesthesia is that a great many major and life-saving operations are possible, when general anesthesia would be an added risk or frequently fatal.

Method: Regional anesthesia may be produced by two methods, field block and nerve block. This paper shall deal with field block, or the injection of an anesthetic solution in the immediate vicinity of the nerves supplying the operative field. A thorough knowledge of topographic anatomy is essential. The relationship of nerves to body landmark and to large blood vessels should be noted, so as to visualize them thru the overlying structures of the body of the patient to be anesthetized.

The operator should be gentle, both in anesthetizing, in operating and in handling the patient.

## LABATS RULES.

1. Needles and other instruments should all be tested before use, so as to make sure of their efficiency.
2. Solutions should be fresh and of accurate strength.

\*Read before the Jefferson County Medical Society.



3. Adrenalin should be added to solution just before use, colored solutions of adrenalin should be discarded.

4. A wheal should be raised wherever skin is to be punctured.

5. The needle should not be filled (or syringe) when it has to be introduced in the vicinity of blood vessels.

6. When in the neighborhood of blood vessels, aspiration before injecting to be sure that the point of the needle is not in a blood vessel.

7. No lateral pressure should be made on the needle for fear of breaking it, draw needle back to point of entrance before changing its direction.

8. Test the operative field with needle before making incision.

9. Patient should be made comfortable on table, discomfort due to position is often an ordeal greater than the operation itself.

10. Care in clamping towels not to get beyond anesthetized field.

11. Patient should not be told when operation begins and the knife should be sharp, pulling and pressure should be avoided. Retractors should be opened gradually and gently. Quiet should reign, no rattling of instruments and no remarks made that would indicate a serious pathology had been encountered.

12. The opening when in the abdomen should be large enough to admit the hand without pressure or stretching.

13. All manipulations must be gentle and slow. Extensive packing in the abdominal cavity should be avoided, tilting the table will allow the intestines to gravitate.

There must be co-operation on the part of the patient, if possible have one who has been operated under local anesthesia to talk to the patient. Have the nurse to reassure them as soon as they arrive at the hospital, telling them all about the operation while preparation of field is going on.

The surgeon should explain that co-operation is necessary, and that 1-6 or 1-4 gr. of morphine given one hour before operation will take away any apprehension.

An anesthetist, sitting at the patient's head, engages him in conversation and frequently the patient's mind is not in an expectant attitude.

A word about novocain: Novocain is beyond the experimental stage. 1. It is 10 times less toxic than cocain. 2. Adrenalin hastens and intensifies the action of the drug, and lengthens the duration of the anesthesia. 3. It is used in 1-2, and 1 and 2% solution.

Toxic symptoms of novocain: 1. Rapid pulse. 2. palpitation of the heart. 3. Frequent respiration. 4. labored breathing.

5. pallor of the face. 6. Cyanosis of finger tips. 7. Nausea, vomiting, cold sweats, haze in front of eyes.

Adrenalin should not be added in toxic goitres. Not more than 30 drops of adrenalin should be given one patient, and in children, elderly patients, or those with lesions of the vascular system and diabetes not more than 10 drops.

Indications: Regional anesthesia is indicated as a substitute for general anesthesia for all operations on the anterior and lateral regions of the neck, especially in goitre cases and tracheotomy and growths, and for lung abscess and empyema, for operations on organs of the abdominal cavity and for repair of all kinds of hernias, on the genitourinary organs, perineum, anus and rectum.

Case report: Mrs. U., age 60, 15 years previously had been operated on for appendicitis; 10 years ago was operated for gall stones, gall bladder drained. History of pain in hypochondrium following second operation. For last two years has had a great deal of digestive disturbance, with several attacks of pain in region of gall bladder, requiring morphine for relief.

When I saw this patient in consultation with Dr. Knight; she had been sick for a week, her temperature was 102 F. pulse 120. Had been unable to retain nourishment or water, and though advised, had refused to have a surgeon to see her. Having experienced two operations, it was with difficulty that she was persuaded to go to the hospital for a third.

A preliminary morphine-atropine hypodermic was given and in half hour under 1% novocain adrenalin infiltration a right rectus incision revealed a very large distended cyanotic, adherent gall bladder, which was incised after aspirating half pint of pus and mucus; quite a number of gall stones were removed and one was imbedded in the cystic duct. The gall bladder was not removed on account of the very exhausted condition of the patient. The abdomen was closed and patient made a rapid recovery. It was explained to her that the gall bladder would have to be removed as there was no bile drainage. She gave consent on condition that we would not put her to sleep. At the end of two weeks under novocain adrenalin the gall bladder was blocked around the cystic duct and removed with little or no discomfort for the patient. She went home in two weeks after second operation and has been entirely well since.

Mr. K., referred to me by Dr. Wolf. Has complained for several years of a growth in his neck, which would once or twice a year rupture spontaneously just above sterno

clavicular junction. He had observed that pressure on the mass discharged a very foul purulent material through the tonsil. The cyst was very superficial at its lower extremity. Could be easily palpated. A large aspirating needle was introduced and through this bismuth paste was injected. An X-ray picture made to determine the course of the cyst and whether or not there were pockets or diverticula. Mr K. was advised that the cyst could be removed under local anesthesia. A preliminary hypodermic of morphine, gr. 1-4, atropine gr. 1-250 was administered,  $\frac{3}{4}$  of an hour prior to infiltration with novocain-adrenalin. No difficulty was experienced in dissecting this bronchial cyst to the point where it opened into the tonsil. Mr. K. states that he experienced no pain during the entire operation. He complained of the pulling which was necessary in order to bring upper attachment into wound. The course of this cyst was between the internal and external carotid arteries.

Mrs. K., referred by Dr. Richardson, aged 74, weight over 200 lbs. with marked cardiac embarrassment and albumin and casts in urine. Though this patient was taking digitalis and strychnine, she was having distressing dyspnea when I saw her.

She had gone through a series of X-Ray treatments six months previously with no relief. Dr. Richardson had introduced a trocar hoping to give temporary relief by withdrawing some fluid. A small amount of thick colloid material made his diagnosis complete. The patient was so uncomfortable that she gladly accepted an operation under local anesthesia, when assured that in our opinion it was feasible. A preliminary hypodermic of morphine-atropine was administered 45 min. before she was sent to operating room. The abdomen in this case was so tight that it looked as if the incision could be made with the finger nail. With novocaine-adrenalin solution a 6 inch incision was made, a large trocar inserted into tumor and several gallons of colloid material withdrawn. This cyst was multilocular and two other cysts were aspirated.

The larger cyst was adherent to omentum, transverse colon and parietal peritoneum. The peritoneum was blocked around the adhesions and dissection was free from pain. The pedicle was blocked, clamped, amputated and ligated. The abdomen closed. Once only did the patient grunt or give any expression of discomfort, and that was when I pulled an adhesion to the parietal peritoneum in the epigastric area. Mrs. K. left the hospital in 2 weeks and states that she has not taken a dose of heart medicine since she left. This patient would have become

exhausted in a few weeks from pressure. I am sure that local anesthesia was the only method that could have been used to make operation safe. This tumor with contents weighed 40 lbs.

I removed a simple cyst, with twisted pedicle from Mrs. S. The cyst and contents weighed 65 lbs. Her exhausted condition from pain, vomiting, and age, (she was 69), made general anesthesia dangerous. I operated on this lady in a kitchen table, at her home 20 miles from a railroad. She made a rapid recovery.

Mr. H., male, white, referred by Dr. Bog-gess, had extensive tubercular infection, with cavity formation in both lungs, hemorrhages.

His gastric symptoms were so indicative of ulcer of the stomach, that an X-Ray examination was made by Dr. Keith, demonstrating a typical occlusive ulcer of the pylorus. We hoped that if his digestion could be improved, the lung infection could be better taken off. His pulmonary infection made general anesthesia out of the question. A gastro-enterostomy under local anesthesia was performed with practically no discomfort to the patient. In two weeks Mr. H. was eating regular diet. He did not vomit a single time following the operation. He died in two months from his pulmonary condition.

I did a gastro-enterostomy on Mr. M., referred by Dr. Frey. This man had extensive cancer of the pylorus with practically complete obstruction. He was very weak, emaciated and exhausted. He recovered from the operation, gained 30 pounds, went back to work, but died in 8 months.

Mr. S., aged 72, had a strangulated inguinal hernia of 48 hours duration. Taxis had been practised by three physicians. He had been anesthetized twice and with his constant emesis and toxicity he was indeed a bad subject for anesthesia. Novocaine-adrenalin was used and 6 ft. (measured) of the small intestine resected, an end to end anastomosis made. This patient recovered and returned in 6 months for a hernia operation on the opposite side, on condition that it be done under local anesthesia. I operated two femoral hernias last Monday afternoon, under local anesthesia. One was strangulated in a man 65, the other incarcerated for 15 years in a woman 69, both would have been bad risks for general anesthesia. On the same afternoon I operated on a case of hemorrhoids, the patient's heart made a general anesthetic dangerous.

I am sure that a goitre patient, is living today and well, because it was possible to operate on him under local anesthesia. Mr. J., of Virginia, was brought to the Deaconess Hospital nearer dead than alive, with a large



bilateral exophthalmic goitre. His pulse was 180, irregular and intermittent. He had a marked tremor, irritation of the cornea so restless that he could not be still a minute, temperature 101 degrees F.

Ice bags were placed on his neck and chest. He was thoroughly digitalized and in 3 days the right superior thyroid artery was ligated under local anesthesia. His reaction was so severe that I thought he would die. He was again packed in ice, in two weeks he left artery was ligated, with little or no reaction. The patient was allowed to go home for two months. He gained 20 pounds and returned much improved. The right gland was removed under local anesthesia, rather a severe reaction followed, however, the patient went home on the 6th day with wound healed. In 3 months he returned having gained 30 pounds and looked like different man; pulse 80. He was kept in bed a few days and 2-3 of the left gland removed under general anesthesia. Not an untoward symptom during the operation. Mr. J. writes me that he is entirely well and working every day. I have operated upon several goitres under local anesthesia, but this was by far the worst.

One of the greatest fields for local anesthesia is intestinal obstruction, where a loop of distended gut can be brought into the wound and fixed. A catheter can be stitched into the lumen of the bowel draining it of its contents. I have used this method in obstruction with happy results.

In closing I wish to report a case of obstruction from a strangulated femoral hernia, of 8 days standing. I have the word of the patient and Doctor for this statement.

There was a mass over the femoral region as large as my fist. Under local anesthesia an incision was made and the tumor tissue dissected free from the hernial sac the incised blood, pus and feces poured out. There was no intestine, just necrotic shreds. The intestine had rotted and liquified. This debris was removed and the ends of the sloughed intestine pulled into the wound by enlarging the hernial ring and a tube stitched into each end and the wound was packed with gauze. And patient returned to bed. Nearer dead than alive and quantities of fecal material drawn. On the third day the patient had recuperated sufficiently to warrant a celiotomy, under gastro-anesthesia abdomen was opened and an end to end anastomosis made. Though this patient was 74 years old she made a complete recovery.

## DISCUSSION

**Oscar Bloch:** Dr. Allen has given us a most excellent paper on a timely subject. I am glad he presented in such a careful manner the indications for local anesthesia. However, I believe he agrees with the most of us that general anesthesia is to be preferred, where there are no contraindications to its use, excepting in one surgical condition, i. e., Hernia, I firmly believe that hernia is a surgical condition absolutely calling for local anesthesia whenever there is no contraindication against its employment. This is directly opposed to my former opinion, but having performed a large number of herniotomies under local anesthesia, and having found that the patient goes to bed absolutely comfortable, without suffering any pain or discomfort from the operation, without being restless and with no post-operative nausea, I am forced to say that herniotomy in ordinary patients should always be performed, preferably under local anesthesia. Of course in children and in very nervous persons who are unwilling to submit to operation unless unconscious, general anesthesia should be used unless there are grave contraindications to its employment. My experience has been very satisfactory during the last year or two with local anesthesia and I find myself using it more and more. I have recently performed tracheloplasties, perineorrhaphies, etc, under sacral block with infiltration with satisfaction to myself and no discomfort to the patient. Patients sometimes complain of discomfort of having to keep their legs in a certain position, but there is no complaint of pain. For instance, in performing herniotomy I prefer to have the patient keep his hands above his head and far away from the operative field, and there is occasionally some complaint about this position. In operations upon the female generative organs I find that the patient complains more or less of the lithotomy position. Otherwise, there is no discomfort or pain.

Preliminary to the use of local anesthesia I give the patient morphine and scopolamine and find this works better than morphine with atropine. The action of scopolamine and atropine is supposed to be identical, but I have had better results from the former drug. Lately, I believe, at the suggestion of Dr. C. G. Forsee, I have been using Abbott's H. M. C. tablets and have obtained splendid preliminary analgesia with them so the local anesthetic works beautifully. I am in the habit of giving one tablet of H. M. C. (hyosine-morphine-eactin) one and a half hours before, and a smaller dose three quarters of an hour before operation, and have found, under this plan that the patient often sleeps throughout the operative procedure. Sometimes I have had patients say they had no

recollection of having been in the operating room.

I wish to again present my compliments to Dr. Allen on his interesting report of cases and his successful use of local anesthesia.

**Bernard Asman:** Not many years ago local anesthesia was considered inapplicable to major surgery and its use was confined largely to minor operations especially about the eye, ear nose and throat. It seems to me that aside from selection of the proper agent for local anesthesia one of the most important features is the technique of its introduction.

When I began the use of local anesthesia for rectal operations, which was several years ago, some difficulty was encountered in producing sufficient anesthetization of the sphincter muscle to permit of its being divulsed; and in certain rectal operations it is absolutely necessary to divulse the sphincter muscle. I have found from experience that when the solution is properly injected into the tissues about the ano-rectal region the sphincter muscle can be completely divulsed without discomfort to the patient.

My present technique for hemorrhoidal operations under local anesthesia is very simple and has proven entirely satisfactory, it matters not how large the hemorrhoids nor how contracted the anal sphincter may be. The needle is introduced about one inch from the ano-rectal junction under the skin and into the subcutaneous tissue the solution being deposited there. It was formerly thought necessary to deposit some of the solution into the skin itself or between the layers of the skin, but experience has shown this to be entirely unnecessary. The needle is introduced under the skin in the median line and by turning the needle in various directions the entire ano-rectal area can be sufficiently anesthetized. The solution is deposited in the muscle, care being taken to introduce the needle into but not through the muscular structures. I use a one-half per cent solution of novocaine for this purpose, and after waiting a few minutes have found it possible to divulse the sphincter muscle to its full capacity. It is then easy to evert the hemorrhoids and accomplish their removal by any method desired. My preference is for the excision and immediate suture method as I have found this plan more satisfactory than other procedures. Personally it has seemed to me that local anesthesia in rectal operations has many advantages over general anesthesia. Many patients prefer not to take a general anesthetic, and quite often they are unsuitable subjects for this method of anesthesia. Again, very often surgical work can be done under local anesthesia which would be impossible if a general anesthetic had to be administered. It is quite essential to have the co-operation of the patient

where local anesthesia is to be used, and careful study should be made of the indications and contraindications, the temperament of the patient, etc., before deciding whether a local or general anesthetic should be employed.

In certain operations about the ano-rectal region special technique is required in introduction of the anesthetic solution. For example, in the excision of fistulous tracts. In some fistulae there are numerous branches, some may extend toward the buttock, others into the rectum proper, and still others into the perineal region. It is occasionally necessary to inject the solution under considerable pressure to reach the desired point. When such a difficulty is encountered by the use of more time and a larger quantity of the solution proper anesthetization can generally be secured. In this way it is possible to excise the fistulous tracts and in suitable cases to close the wound primarily.

I have performed practically every rectal operation, except radical excision, under local anesthesia. Of course in rectal excision a general anesthetic must be employed.

**Frank T. Fort:** This seems an especially opportune time to discuss the question of local anesthesia as the method is constantly growing in favor among surgeons generally. I believe it is possible for nearly every surgical operation on the human body to be done under local anesthesia. Of course there are a few exceptions.

About a week ago I had the pleasure of seeing Dr. Willard Bartlett, of St. Louis, perform several operations under local anesthesia. He does perhaps twenty operations or more each week under this method. He told me he had not used a general anesthetic more than half a dozen times since last September. He furthermore stated that the general rule among surgeons was to use general anesthesia in all cases, and where the patients could not safely take a general anesthesia, to resort to local anesthesia. He said, however, that he used local anesthesia in all cases unless there was some special contraindication and there were very few.

The temperament of the patient must always be considered. In the highly neurotic Bartlett always uses a preliminary injection of morphine, and scopolamine or the H. M. C. tablet. I have been afraid to use H. M. C. mixture because some patients are highly susceptible to hyosine and its administration may therefore be dangerous. Where proper results are not secured from morphine a general anesthetic must be employed.

Spinal anesthesia is condemned to a great extent by many of the leading surgeons. I have seen it given a number of times and have never observed any ill-effects from it; but have heard of some unfavorable results. By using three



grains each of novocaine and glucose in 10 c. c. of distilled water, injecting this into the lumbosacral vertebrae under proper precautions, satisfactory anesthesia can be produced for any surgical operation from the stomach downward. Cholecystostomy, cholecystectomy, appendectomy, salpingectomy, etc., can be satisfactorily executed under this method of anesthesia. I saw Bartlett perform pan-hysterectomy under spinal anesthesia without pain or discomfort to the patient. In my opinion spinal anesthesia, other things being equal, is to be preferred to the block method of local anesthesia described by Dr. Allen. Under many circumstances especially in operating for inguinal hernia spinal anesthesia is really better than local anesthesia for the reason that the inguinal glands have a very low vitality and if the block method of anesthesia is used these glands are more or less infiltrated and there is great danger of subsequent infection. Of course if one goes above, over the anterior superior spine of the ilium, and blocks the nerve there, the skin incision being made at a point to avoid injury to any of the nerves, the hernial sac can be opened and herniotomy performed with ease and with less pain under spinal than by the local or blocking method. In rectal operations, as stated by Dr. Asman, much depends upon the technique of introducing the anesthetic solution.

I have a small volume by Herschel, or Heidelberg, on local anesthesia, in which he considers the entire range of human anatomy and outlines the technique of surgical procedures under this method of anesthesia. While I have not undertaken all of the operations he describes, I have performed a sufficient number to know that almost every operation on the human body can be successfully executed under local anesthesia.

**A. L. Bass:** I can only emphasize and approve what Dr. Allen has said on the subject of local anesthesia. I think the day is already here when the most of us are using local anesthesia more and general anesthesia less.

It is important to get the patient quiet before undertaking the proposed operation by giving preliminary injection of morphine and scopolamine. This is essential whether the patient is neurotic or phlegmatic in type. I think it is preferable to use morphine and scopolamine instead of atropine as the latter has a tendency to make the patient little nervous. The general tendency today is to get further and further away from general anesthesia and to increase the use of local anesthesia.

I operated upon a patient a day or two ago for disease of the antrum under local anesthesia. After he had gotten the effects of the

hypodermic, he said, "I feared this operation quite a bit when I came in here; but since Dr. Bass "shot" that dope into me, I don't care what he does now."

**W. Hamilton Long:** I am frequently asked by surgeons to see patients in consultation and asked for an opinion upon the advisability or safety of administering a general anesthetic. After examining the patient I have often given the opinion that a general anesthetic might be hazardous but operation might be undertaken under local anesthesia with comparative safety to the individual. As a rule I am requested to be present at the operation to augment the anesthesia, if necessary.

I saw in consultation with a surgeon the other day a man with the worst toxic goiter that has ever come under my observation. The man had a pulse of 160 in spite of preliminary treatment, rest, medication, etc. He could not hold his breath ten seconds, and the situation appeared extremely unfavorable. I did not feel inclined to administer any general anesthetic, and the surgeon and myself decided that an attempt would be made to remove the goiter under local anesthesia. I was present to augment the anesthesia with gas or ether if necessary. The operative procedure was completed satisfactorily without giving the patient any general anesthesia.

The type of the individual must always be considered, the temperament, also whether or not morphine or any other narcotic has been used by the individual. I am not in favor of hyoscine as a preliminary measure because I am afraid of it. It has been my observation that hyoscine always acts in the wrong way. Of course if the patient is exceedingly nervous in type hyoscine will sometimes produce quietude, but in a comparatively phlegmatic individual the drug will often make him crazy.

Dr. Allen did not mention empyema: It has been my experience that empyema patients are excellent subjects for local anesthesia. I have been called a number of times to administer an anesthetic in empyema cases, and if there were no contraindications to the method have urged the surgeon to perform the operative steps under local anesthesia, augmented by a small amount of gas if necessary. Many such operations have been performed under local anesthesia alone with excellent results.

I do not know whether there is much difference between "doping" patients with three or four preliminary doses of morphine or giving them ether. I do not call that local anesthesia anyhow, as the patient is merely stupefied by the effect of morphine or some other narcotic. Personally I would just as soon administer ether as it would do no more harm unless there was some definite contraindication in the cardiorenal system.

Synergistic anesthesia, which is a very good compromise between general and local, has been thoroughly exploited by Gwathmey and others. This form of anesthesia was not mentioned by the essayist. Synergistic anesthesia by the use of magnesium sulphate increases the action of morphine two or four times without adding anything to its toxicity. I wish to say, however, that any patient who is given two or three preliminary doses of morphine and hyosine and brought into the operating room in a semi-stuporous state, then given an indefinite amount of local anesthetic, either novocaine or cocaine, his is not ideal local anesthesia.

It must be remembered that suggestion plays a large role in local anesthesia. The physician or surgeon must have the confidence and co-operation of the patient who should be assured beforehand that he is not going to be hurt. Fear of the operation is a most important factor.

In intestinal work under local anesthesia there is no pain so long as the surgeon does not drag or pull upon the mesentery. I have seen this demonstrated many times. In the majority of operations under local anesthesia there is no pain after the skin has been incised; the abdominal viscera can be gently handled without producing discomfort.

In considering the advisability of administering either local or general anesthesia we must be governed entirely by individual indications and contraindications, i. e., the anesthetic should be selected which will be least harmful to the patient.

**Octavus Dulaney:** Before doing any nasal operation under local anesthesia, I make it a rule to give the patient a small dose of H. M. C. (Abbott's tablet) and observe just what effect it has. If I am not satisfied the dose is repeated. Some patients are very susceptible to drugs of this class and require much less dosage than others. Where H. M. C. is used in nasal operations hemorrhage rarely occurs. I have been able to operate on the accessory sinuses in many cases under H. M. C. and have the patients say the next day after the operation that they knew nothing about it. I recently opened the maxillary sinuses and ethmoid cells of a woman aged forty-nine years without pain under this form of anesthesia. I gave her H. M. C. tablet No. 1, then forty-five minutes later gave her half a tablet. The following day she said she remembered nothing about the operation. Three or four days later operation was performed on opposite side with similar results.

I agree with the other speakers that morphine and other narcotic drugs should not be too freely used as a preliminary to local anesthesia. But in certain nasal operations I use cocaine and adrenalin as an adjunct. In this way far less

cocaine need be used, better results are secured and there is less hemorrhage.

**E. S. Allen (Closing):** I wish to thank the gentlemen for their liberal discussion of my imperfect paper. While local anesthesia is becoming more and more popular, and is now used in a greater variety of surgical procedures than formerly, it will never entirely replace general anesthesia in cases where the pulmonary and cardio-renal conditions are such that a general anesthetic adds nothing to the operative risk. The majority of us, I am sure, would rather undertake major surgical work under general anesthesia, but under such circumstances we are prone to handle the tissues more roughly or at least not be as gentle in our manipulations as is necessary under local anesthesia. I think local anesthesia has a tendency to make the surgeon a little more conservative in handling the tissues. We know that trauma to the tissues invites infection, devitalization and contamination of the tissues means infection.

Referring to Dr. Asman's remarks: I have never felt that the ano-rectal region was a place where local anesthesia could be used with any degree of satisfaction. Much infiltration is necessary and the agents used are themselves toxic in character, they are devitalizing to the tissues when used in large amounts, infection is already implanted in the tissues, and necrosis with sloughing is likely to be the result. Spinal or sacral anesthesia would I think be preferable to local anesthesia for surgical operations about the ano-rectal region.

I have used the H. M. C. tablets on one or two occasions, I recall that one of the patients, the wife of a physician, was asleep and snoring while her rib was being resected. As a rule I use morphine, sometimes atropine with it. I have found, as mentioned by Dr. Casper that having a competent anesthetist at the head of the table engaging the patient in conversation, is an important adjunct to local anesthesia.

---

**Uremic Symptoms in Heart Disease.**—Alvarez comments on the variability of the urea content in the urine in asytoly and the lack of any apparent relation to the urea in the blood. In thirteen cases tabulated, with from 0.51 to 2.6 per thousand in the blood, the range in the urine was between 12.1 and 35, the total output of urine between 150 and 700 c.c. Analysis of the cases showed that the retention of urea was not due to the oliguria alone, but to disturbances in the ureosecretory function of the kidneys. The symptoms suggesting ureamia were due not to the retention of urea but to the retention of chlorids. This applies particularly to the Cheyne-Stokes breathing, as this occurs even with every moderate retention of urea and even without any retention.



## FOREIGN BODY IN EYE FOURTEEN YEARS: CASE REPORT.\*

By SAMUEL G. DABNEY, Louisville.

The specimen which I show you is a minute piece of steel which had remained in a man's eye fourteen years. According to the history while working in a machine shop in Colorado fourteen years ago, he felt an object strike him in the eye. He consulted an oculist and a roentgen-ray examination was made but no foreign body was located. The case is of some interest from the standpoint of the roentgen findings. I have seen several patients with ocular foreign bodies which roentgenologists in other cities failed to localize, but am glad to say this does not apply to the x-ray men in Louisville.

When the patient came to me the injured eye was totally blind, it was considerably softened and tender, and he was then suffering from the third or fourth attack of iridocyclitis. Dr. D. Y. Keith made a roentgen-ray examination and not only located the foreign body but described its exact situation.

Under the circumstances I made no attempt to extract the foreign body as enucleation was plainly indicated. The man made a satisfactory recovery after operation.

### DISCUSSION

**Adolph O. Pfingst:** The practical point about Dr. Dabney's report is that foreign bodies in the eye are sometimes overlooked by the roentgenologist. I have had one unfortunate experience of that kind. A young man who had only one eye sustained an injury of his remaining eye and a traumatic cataract developed. When I saw him most of the lens had absorbed but a thick band of capsule stretched across the pupil. Vision was barely sufficient to enable him to get about safely. The roentgenological examination failed to reveal the presence of a foreign body in the eye, so I advised that the pupillary membrane be divide in order to give him a black pupil and sufficient vision so he might resume his occupation. The operation was performed and shortly afterward intense iridocyclitis developed followed by blindness. To satisfy myself I had the eye x-rayed again and the presence of a small foreign body within the eye was demonstrated. The roentgenologist could not account for his failure to find the foreign body in his original attempt.

I also wish to mention an instance in which attempt at removal of a foreign body from the eye failed although we were certain one was

present. An oculist from the interior of Kentucky asked me to see a patient in consultation relative to the removal of a foreign body which had been in the eye for several years. The foreign body, presumably steel, was lodged in the choroid and could readily be seen with the ophthalmoscope, but to make the matter doubly sure an x-ray examination was made which confirmed the ophthalmoscopic findings. The patient was taken to the hospital and an incision made far over the site where the foreign body was supposed to be. The magnet was applied through the opening with negative result. The Hirschberg point was also used and resulted in failure. After making several attempts with the magnet we concluded to allow the foreign body to remain in his eye. I merely mention this case to show that we sometimes fail in our attempt to remove foreign bodies from the eye.

**S. G. Dabney** (closing): In the case reported the man had suffered several recurrent attacks of inflammation, as is true in most instances where a foreign body is allowed to remain in the eye. When he came to me he had rather severe iridocyclitis with softening of the structure of the eye, tenderness, etc, and enucleation was indicated.

At the time of the injury, fourteen years before, the Colorado oculist used every means to ascertain whether or not a foreign body had entered the eye, including the roentgen-ray. As the report was negative he wisely did not recommend enucleation at that time.

With each recurrence of inflammation we know there is danger of sympathetic ophthalmia with possible loss of the sight of the other eye. Even after removal of the foreign body the danger still remains. Under such circumstances the safest course is enucleation.

---

**Treatment of Varicocele.**—Ferrando describes Marengo's technic which has been applied successfully in twenty cases since 1916. The veins in the anterior bundle of the spermatic cord are resected for 3 or 4 cm., and the testicle, enclosed in its vaginalis, is drawn through a slit in the parietal layer of the serosa. The serosa is then inverted and a stout catgut thread is passed through each end of the wound. The testicle is restored to place and supported at the proper height, and the catgut is tied and each side and fastens it thus to the cellular tissue of the root of the scrotum, to Poupart's ligament, or to the rectus muscle. The testicle is thus left of good size and shape, held immovable at the proper height by a cicatricial envelop, and the stretched scrotum usually shrinks to normal size.

\*Clinical report before the Louisville Medico-Chirurgical Society.

# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price ..... \$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD ..... Paducah

### PRESIDENT-ELECT

J. RICE COWAN ..... Danville

### VICE PRESIDENTS

C. W. DOWDEN ..... Louisville

J. G. FOLEY ..... Pineville

E. G. THOMAS ..... Benton

### TREASURER

W. B. McCURR ..... Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL ..... Louisville

LEWIS S. MCMURTRY ..... Louisville

W. W. RICHMOND ..... Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK ..... Louisville

### ORATOR IN MEDICINE

E. R. PALMER ..... Louisville

### FIRST DISTRICT

V. A. STILLEY ..... Benton

### SECOND DISTRICT

D. M. GRIFFITH ..... Owensboro

### THIRD DISTRICT

J. H. BLACKBURN ..... Bowling Green

### FOURTH DISTRICT

C. Z. AUD ..... Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN ..... Louisville

### SIXTH DISTRICT

R. C. MCHORD ..... Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD ..... Lancaster

### EIGHTH DISTRICT

F. A. STINE ..... Newport

### NINTH DISTRICT

A. T. BRYSON ..... Ashland

### TENTH DISTRICT

R. J. ESTILL ..... Lexington

### ELEVENTH DISTRICT

W. M. MARTIN ..... Harlan

### SECRETARY-EDITOR.

ARTHUR T. MCCORMACK ..... Louisville

### BUSINESS EDITOR

L. H. SOUTH ..... Louisville

### ASSOCIATE EDITORS

H. A. COTTELL ..... Louisville

J. K. FREEMAN ..... Louisville

### ASSISTANT EDITORS

#### UROLOGY

W. A. GRANT ..... Louisville

#### DERMATOLOGY

S. A. STEINBERG ..... Louisville

#### GENERAL SURGERY

IRVIN ABELL ..... Louisville

C. C. HOWARD ..... Glasgow

#### PEDIATRICS

P. F. BARBOUR ..... Louisville

#### GYNASTICS

EDWARD SPIDEL ..... Louisville

L. C. REDMON ..... Lexington

#### BYE

ADOLPH O. PFINGST ..... Louisville

#### EAR, NOSE AND THROAT

O. T. WOLFE ..... Louisville

S. S. WATKINS ..... Louisville

#### PROCTOLOGY

G. S. HANES ..... Louisville

BERNARD ASMAN ..... Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM ..... Owensboro

R. H. COWLEY ..... Berea

#### ANESTHETICS

W. H. LONG ..... Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN ..... Louisville

## COUNTY SOCIETY REPORTS

**Bourbon:** The Bourbon County Medical Society met on Thursday, February 21st, 1924 at the Memorial Building at 8:00 P. M. Dr. W. C. Ussery, C. G. Daugherty, J. A. Orr, F. M. Faries, J. M. Williams and M. J. Stern were present. The following visitors were present as invited guests: Drs. Breckenridge, Kavanaugh and Brown of Lexington; Drs. Reese, Wells, McIlvaine and McDowell of Cynthiana.

The minutes of the previous meeting were read and approved.

Dr. S. D. Breckenridge, Lexington, read a paper on "Endocrinology in Obstetrical and Gynecological Practice."

C. N. Kavanaugh, Lexington read a paper entitled "Endocrinology in Relation to General Practice."

The discussion of these two papers was opened by C. G. Daugherty and followed by Drs. Wells, Reese, McIlvaine, McDowell, Orr, Ussery, Faries and Williams, and in closing by Drs. Breckenridge and Kavanaugh.

M. J. STERN, Secretary.

**Breathitt:** Meeting of the Breathitt County Medical Society, Feb. 12, 1924, in office of Dr. A. H. Davis. Meeting called to order by Dr. O. H. Swango and following officers elected for 1924:

M. E. Hoge, President; O. H. Swango, Vice-President; A. H. Davis, Secretary; D. H. Kash, Delegate; O. H. Swango, Alternate.

Members present endorsed present State Board of Health and will give them their support and cooperation, and that we respectfully ask the Governor that he recommend to the Legislature that no change be made in our laws regarding State Board of Health.

Members present: Drs. M. E. Hoge, O. H. Swango, D. H. Kash, A. H. Davis, J. S. Redwine, C. H. Hurst.

Arthur H. Davis, Secretary.

**Boyd:** On February 25th the Boyd County Medical Society met at the Ventura Hotel. We were very fortunate in having Dr. Louis Frank of Louisville and Dr. R. Julian Estell of Lexington with us at this meeting. Dr. Frank read a paper on "Carcinoma of the Breast"; Dr. Estell's paper discussed the practical problems in management of infants.

On March 10th the Society enjoyed the papers by Dr. S. C. Smith and Dr. W. L. Gambill.

The dates of our meetings have been changed from the second and fourth Monday evening to the second Tuesday and last Thursday of each month. The meetings on Thursdays will be prefaced by a dinner.

L. H. WINANS, Secretary.



**Clark:** The Clark County Medical Society convened in regular session on Friday evening, February 15, 1924, at 7:30 o'clock, at the office of Dr. Howard Lyon, the President, Dr. Samuel J. Rose, in the chair.

Members present: Samuel J. Rose, Robert B. Ishmael, H. R. Henry, O. P. Clark, E. P. Guer-rant, Howard Lyon, W. Carl Grant and George F. Doyle.

Minutes of the last meeting read and approved.

Dr. Samuel J. Rose presented a Case of Tuberculosis, Osteomyelitis of the Tibia.

W. A., male, aged 16 years, by occupation a farmer.

**Family History:** Father died of pulmonary tuberculosis. History of mother vague. No brothers nor sisters.

**Past History:** Had measles, whooping-cough and mumps during childhood, with no complications. At age of 9 years, had a tuberculous involvement of left hip, at which time there was a great deal of swelling, which later broke down. After several months the abscess healed, after the discharge of some sequestra of bone. There was no history of injury. A few months later the lower third of the left tibia became swollen, followed by abscess formation and this continued for three or four years, finally healing. He had no further trouble until the present illness.

**Present Complaint:** Patient consulted me on Nov. 11, 1923, complaining of a great deal of pain in the left leg, just below the knee. It was necessary for him to use a cane to assist him in walking. When at rest the pain was less severe, but still rendered sleep impossible without the use of sedatives. Appetite had been excellent up to the time the pain developed, seven months previously. There was no history of injury or any illness other than the diseases of childhood and the abscesses on the left limb. Patient was pale and anemic.

Examination revealed a mass the size of a hen's egg in the upper third of the left tibia, which was somewhat red, moderately soft and very tender upon palpation, and reminded one of the appearance of a baked apple, on which the outer covering was unbroken, but uneven in contour, yet there was a strong suggestion of the presence of pus. An inch and a half incision, made deeply through this mass, which further demonstrated the baked-apple appearance, there being some serum superficially, but the deeper part of the mass had not liquified.

**Treatment:** The first treatment consisted in first protecting the surrounding tissues and then exposing the mass to the ray of a Kromayer quartz lamp in contact for ten minutes. Systemically, he received raying from the Alpine lamp over the back and chest for three minutes each at a distance of thirty-six inches.

The systemic raying was continued daily, gradually increasing the time of exposure and decreasing the distance between the lamp and the patient, until fifteen minute exposures to the back and chest were given.

When the patient reported the second time, the appearance of the mass had changed remarkably. The integument was well broken and the mass was rapidly liquifying, the seropurulent discharge escaping down the limb through the dressings, which had been applied the day before. The pain from the erythema produced by the lamp had produced no more discomfort than the patient previously experienced, but the reaction was severe enough to prevent a repetition of this part of the treatment for a week. The next treatment was given at contact for six minutes and then four or five days allowed to elapse for the reaction to subside. This treatment was continued without modification. In eight weeks the patient was discharged, with the lesion completely healed as you see it now. He returned to work on the farm ten days after the beginning of treatment. He has gained thirteen pounds in weight, the pallor has entirely disappeared, as you can see by his rosy appearance, his appetite is good and he sleeps well. Internally the patient received calcium lactate, ten grains four times a day.

In opening the discussion, Dr. E. P. Guer-rant reported two cases of tuberculosis of the tibia, which he had operated upon, both of them making complete recoveries. He expressed the opinion that the majority of cases of tuberculosis of the bones are better off unoperated, provided they can obtain the sunlight treatment.

The case was also discussed by Drs. Ishmael, Henry, Grant and Rose (closing).

GEORGE F. DOYLE, Secretary.

**Scott:** Scott County Medical Society met at Lancaster Hotel for lunch with following officers and members present: H. V. Johnson, presiding; Wm. Mason, W. B. Salin, W. N. Zwick, W. H. Coffman, W. S. Allphin, E. C. Barlow, F. C. Collins, S. S. Amerson, Dr. Sohleiger from Lexington and Albert Stewart. After lunch the minutes were read and approved after which the society enjoyed a very interesting talk by Dr. Schleiger on *Tacidofilax*, put up by Southern Biological Laboratories, Lexington, Ky. Then a splendid talk on "Treatment, Diagnosis and Management of the Eye" by E. C. Barlow. Next a paper by Albert Stewart on "Some Phases of Public Health." The meeting was very enjoyable and one of the best we have had for a long time. The meeting adjourned until next regular meeting which is second Thursday in April.

A. STEWART, Secretary.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



# What Is S. M. A. ?

S. M. A. is an adaptation to breast milk which resembles breast milk both physically and chemically.

S. M. A. in addition to giving excellent nutritional results in most cases, also prevents nutritional disturbances such as rickets and spasmophilia.

S. M. A. requires no modification or change for normal infants. As the infant grows older the quantity is merely increased.

S. M. A. requires only the addition of boiled water to prepare.

(Orange juice, of course, should be given the infant fed on S. M. A., just as it is the present practice to give it to breast-fed infants.)

## Why was S. M. A. developed?

Because there is a real need for an adaptation to breast milk which will give satisfactory nutritional results in the great majority of cases, which includes the preventive factors, and which is, at the same time, so

simple to prepare that the physician can rely on the mother to follow his directions accurately.

## How is it possible to feed S. M. A. to infants from birth to twelve months of age without modification or change?

The answer to this question sounds the keynote of the success which thousands of physicians are having with S. M. A. It is not necessary to modify S. M. A., for *the same reason that it is not necessary to modify breast milk* —for S. M. A. resembles breast milk not only in its protein, carbohydrate and salt content, but also *in the character of the fat*. Since the very young infant can tolerate the fat, as well as the other essential constituents in S. M. A., it is possible to give this food *in the same strength*, to normal infants *from birth to twelve months of age*.

As the infant grows older, therefore, it is only necessary to increase the *amount* of S. M. A.



*Samples and literature to physicians on request.*

✱

S. M. A. is to be used only under the direction of a physician. For sale by druggists.

✱

Formula by permission of The Babies' Dispensary and Hospital of Cleveland.

✱

**THE LABORATORY PRODUCTS CO.**

Cleveland, Ohio

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., JUNE, 1924

No. 6

## CONTENTS AND DIGEST

### EDITORIAL

TUBERCULOSIS .....	171
HYGEIA .....	171
DR. HUGH N. LEAVELL .....	171
QUACKS .....	172
THE CORONA .....	172
A REPLY .....	172
THE MEDICAL RESERVE CORPS, By Irvin Abell .....	172

### SCIENTIFIC EDITORIAL

FOOL PROOF INFANT FEEDING, By Philip F. Barbour .....	173
---	-----

### SPECIAL ANNOUNCEMENTS

PROGRAM FOR ALUMNI CLINICS .....	174
----------------------------------	-----

### SPECIAL ARTICLE

OBSTETRICAL COLUMN, By Alice N. Pickett .....	177
---	-----

### ORIGINAL ARTICLES

DIAGNOSIS AND ROUTINE TREATMENT OF PULMONARY ... TUBERCULOSIS, By O. O. Miller, Louisville .....	180
TREATMENT OF PUERPERAL INFECTION, By J. T. Red- dick, Paducah .....	184
DISCUSSION, By R. C. McChord, J. G. Carpenter, J. L. Toll and in Closing the Essayist .....	188
REPORT OF SURGICAL CASES, By Louis Frank, Louisville .....	188

(Continued on Page V)

## JUST READY

# Buerger's Circulatory Disturbances

Dr. Buerger's work on *Circulatory Disturbances of the Extremities* (including Gangrene, Vasomotor and Trophic Disorders) is the only treatist extant in which can be obtained a comprehensive insight into all those fundamental facts that bear on the fields covered. With this book in his possession the practitioner will find it unnecessary to delve deeply into the literature, because the important references are obtainable in this volume. It is the first book that contains an authoritative description of thrombo-angiitis obliterans. In no other volume can the reader secure such a clear insight into the differential diagnosis between the organic and neurogenic vascular affections of the extremities. To the surgeon the work will be found indispensable since a large number of the affections described are surgical diseases.

The book assembles in orderly fashion, analyzes and critically interprets the multitude of facts and clinical data bearing on the subject. It is really a summary of Dr. Buerger's eighteen years of research work in this field. It is complete, giving the anatomy and physiology of the nervous mechanism that controls the vessels, the normal and pathologic local circulation, origin and action of thrombosis, of mechanical and of thermal agencies of the tissues, gangrene in relation to its clinical, diagnostic and pathologic aspects, and a clear exposition of the clinical course of all those diseases of either organic vascular, neurovascular, or vasomotor causation that are giving the physician much difficulty in clinical differentiation. Clinical, pathology, diagnostic phases and all forms of indicated therapy are emphasized.

By LEO BUERGER, M.D., New York City. Octavo of 628 pages, with 192 illustrations, five in colors. Cloth \$8.50 net

W. B. SAUNDERS COMPANY

Philadelphia and London



MEAD'S

# LIVE FOOD

*for Babies*

There is none so good—

First Thought

## Breast Milk

Second Thought

## Fresh Cow's Milk

Water And

## Mead's Dextri-Maltose

For Your Convenience

Pamphlet  
on  
Breast Milk



Pamphlet  
on  
Dextri-Maltose

MEAD JOHNSON POLICY—Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feeding from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

Mead-Johnson & Company, Evansville, Ind.

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., JUNE, 1924

No. 6

## EDITORIAL

### TUBERCULOSIS.

Kentucky's biggest single medical problem is the recognition and treatment of tuberculosis. Every physician understands that the cases which ordinarily come to him for treatment are already passed any possibility of cure when he first sees them. It is interesting that in the past two years the clinics which have been held in practically half of the State by the County Medical Societies have demonstrated that more than one-half of the cases of tuberculosis are not under treatment by any physician and of the half that are under treatment many of them have not been told that they have this disease. This is evidently a relief of the old day when the diagnosis of tuberculosis was considered a death warrant. We are calling the attention of our physicians to the existence of this custom because we are advised by our attorneys that a patient having tuberculosis who is not told of it by his physician would have good grounds for a suit of malpractice.

It is amusing sometimes to those in general practice to hear the wordy vaporizings of the tuberculosis specialists about the early diagnosis of the disease and most of the failure of the profession to take a particular interest in the diagnosis and treatment of tuberculosis is due to the impracticable writings of these self-styled authorities. The JOURNAL this month takes especial pride for these several reasons in publishing an article read before the Muldraugh's Hill Medical Society by Dr. O. O. Miller, superintendent of the Waverly Hills Sanitarium. We consider this the most practical and complete paper on this subject which we have ever read. It was inspiring to listen to the splendid discussions by Doctors Lock, Layman, McClure and others of the men who are confronted everyday with the problems involved. We are especially emphasizing the importance of this article with the hope that it will be widely read and it will inspire members of the profession everywhere to pay closer attention to this big problem.

## HYGEIA.

We wonder why the physicians of Kentucky have not more generally subscribed for Hygeia, the Journal of "Individual and Community Health," published by the American Medical Association, 535 North Dearborn street, Chicago. Not only should every physician in the State have a copy of this splendid Journal coming to his desk each month, but the head of every family should be receiving it. It contains the best and most wholesome advice on advance in sanitary science that is published. It is the best antidote for quackery and cultism.

Our readers are urged to subscribe themselves and to get their patients to subscribe so that the people of Kentucky may be more thoroughly inoculated with the positive value of medical service and against all form of quackery.

### DR. HUGH N. LEAVELL.

In the death of Dr. Hugh N. Leavell, the medical profession of Kentucky lost one of its really great practitioners. A Virginian by birth, he had all the social graces of the Old Dominion. He was probably the most versatile general practitioner left in Louisville, a skillful and kind obstetrician, a beloved physician at the bedside of children, the family physician of a large circle of the most discriminating citizens of Louisville. He was an expert in practically all of the specialties in medicine. Dr. Leavell was an indefatigable worker, but at the same time he realized that recreation was necessary and at his farm in Virginia he spent his vacations with his family as a Lord of the Manor and passed on to them the inspiration of a great father's life and love.

For many years Dr. Leavell had been a member of the Jefferson County Board of Health and was always interested in its work and he contributed as much as any other one man to better health conditions amongst the people of the county outside of Louisville.

Kentucky could ill afford to lose such a citizen and the medical profession of his adopted State extend to his wife and children their love and sympathy.



### QUACKS.

The following good advice is taken from the Health Review of the Detroit Health Department. It is worthy passing along to your newspaper:

"During the past few days local newspapers have had a good deal to say about a woman who was treated by a self-styled 'doctor.' The woman was suffering from rheumatism and the so-called doctor treated her by wrapping her in bandages soaked in kerosene. As a result she is in a very dangerous condition and there is only small hope for her recovery.

"This story is an example of what is happening, we hope with some what less disastrous results, to thousands of Detroiters every year. The quack is a greater menace to society than the bandit. The bandit takes only your money. The quack takes your money and injures your health, sometimes beyond repair.

Quacks continue to exist and prey upon the people because:

(1) They advertise; reputable physicians do not.

(2) They make absurd promises of quick and sure cures. Beware of the man who has a quick sure cure.

The Department of Health through its special investigation division has succeeded in greatly reducing the number of quacks in Detroit.

The Department is well aware of the fact that there are other quacks but as yet has no evidence which will convict them in court. The people of Detroit may help rid themselves of the parasites by:

(1) Investigating the persons to whom they go for medical treatment. Find out what their reputation is and whether or not they are licensed to practice medicine in Michigan.

(2) Reporting to the Health Department any instances in which improper treatment has been injurious to health."

---

### THE CORONA.

In our advertising pages there appears the announcement of the Corona typewriter. Several of these are used by the traveling inspectors of the State Board of Health and by its bureau directors. Increasing numbers of them are used by the physicians of the state.

This editorial is not written with a view to calling attention to the advertisement, which we know our readers would see without such an editorial, but we do want to emphasize their advice, "If you are going to prepare a paper remember that it should be typewritten on standard size paper, double

spaced and with ample margins." This is good advice from the firm which makes the best typewriter that physicians use.

---

### A REPLY.

In a separate column of this issue, we are publishing a statement of Dr. Milton Board which will be of interest to the physicians of the State, not because of any merit in anything he says, but as indicating the state of mind of a partisan politician activated by a personal spite.

---

### THE MEDICAL RESERVE CORPS.

The writer has been requested by the President of the Kentucky State Medical Association to serve as chairman of the Military Committee of this organization and in that capacity wishes to transmit certain information regarding the Reserve Corps and to present to the members of the profession the desirability of enrollment in it.

The following excerpts from an address by Surgeon-General Merritt W. Ireland at the Southern Medical Association meeting last November state the latter briefly and clearly:

1. "The World War taught us many lessons but none more important than the necessity for gaining co-operation of the intelligent classes of American citizens in a peacetime military organization."

2. "The Medical Department of the army is the organization through which the medical profession of this country has always rendered its patriotic duty to the Nation."

3. "No branch or department of the tremendous organization developed in the World War achieved a more splendid reputation than did the Medical Department. That achievement could not have been effected without the whole hearted response of the profession. The question I present tonight is, shall we forget the lessons of that experience and permit the new generation to come into the control of the destinies of the Republic without imparting to them the experience we so dearly bought in 1917 and 1918?"

4. "I fully appreciate the many reasons for this small number (in Reserve Corps., November, 1923), for I realize that in the confusion and hurly-burly of the rapid war organization of an unprepared people many individuals suffered injustice in position and place. These instances of injustice and dissatisfaction are only additional arguments for the enrollment and classification in peacetime of the medical profession so that the teaching staffs of medical schools, universi-

ties and hospitals will not be disrupted, and so that individuals will be placed in positions comparable with their special training and qualifications, and so that all will be placed upon a fair and equal basis of appointment and promotion."

The promotion policy of the War Department provides that members of the reserve corps are eligible for promotion to the next higher grade after each five-year period. The application for same must be initiated by the Reserve Officer indicating his desire for promotion to the next higher grade and should be submitted to the Commanding General of the Corps area in which the officer resides at least sixty (60) days prior to the expiration of his present appointment.

Provision has been made for the training of officers of the Army Medical Department Reserve, assigned to the Branch Assignment Group. Camps of instruction will be conducted at Carlisle Barracks, Penn., and Fort Snelling, Minn. It is planned to give officers of the Medical Reserve Corps who can accept, training at these camps during the period, instruction in tactics and the technic of operation of divisional medical units. It is hoped it may be possible to stimulate interest among officers of the Reserve Corps in the Branch Assignment Group and to make these camps an agency in improving the efficiency of officers classified for duty with units in the Branch Assignment Group. These camps will be held for a period of two weeks beginning about July 7. Officers interested should apply to the Surgeon-General of the Army direct, indicating their desire to be ordered to active duty for a period of two weeks, for the purpose of training. In their application, they should state that they have not been on active duty for training during the fiscal year. Officers ordered to active duty for training receive mileage to and from camp and the pay and allowance of their grade.

The splendid record of the profession of Kentucky in the World War should be an incentive to its members in aiding to build up an adequate organized reserve. The undersigned will be glad to provide application blanks for the Reserve Corps to those indicating a desire for them.

It will be of interest to the profession and especially to former members of Base Hospital No. 59 to know that General Hospital No. 59 has been assigned to the Medical Department, University of Louisville, is in process of organization, and is to be known as the University of Louisville Unit.

IRVIN ABELL.

## SCIENTIFIC EDITORIAL

### FOOL PROOF INFANT FEEDING.

This expression has been given to a new method of Infant Feeding which has been recently introduced by Marriott, of St. Louis. It is a simple method but the applicability to all digestive capacities of all babies remains to be proven.

The method in brief consists of the addition to milk of commercial lactic acid and sweetening with corn syrup. Whole milk of good quality is thoroughly boiled for five minutes and then set aside until cooled. The U. S. P. lactic acid is then added to the milk drop by drop with constant stirring so that curdling will not take place. One dram to the pint will be sufficient but the amount should be carefully measured in a proper pipette or other measure. To this corn syrup should be added to the amount of one to three ounces. No water is added and the baby is allowed to take as much as it wants at intervals of four hours. Water may be given to the baby half way between the feeding and must be given if there is any sign of dehydration.

This new method has already been tried on many thousand children with apparently satisfactory results. We are using it in the hospital wards with very gratifying gains in all the children. There are several minor objections which may be encountered. Constipation can be ameliorated in a number of ways. The stools are rather large and dry but usually show no signs of indigestion. Vomiting has been observed but the amount is not large, certainly not enough to prevent a gain in weight and never in any way alarming in amount. The taste is not pleasant to many babies and they may have to be starved into taking it which is practicable in a hospital but not always with a young mother and grandmother. The interval of four hours is difficult to attain with many mothers. These are not objections to the method as securing results but do make it difficult at times to sell the idea to some of the nit wits one comes in contact with at least occasionally.

To outweigh these disadvantages is the simplicity of the formula and the fact that the food is practically sterile as no types of bacteria seem to be able to live in the acidified milk. Notably the dysentery, colon bacilli are destroyed which makes it an excellent combination during the summer heat.

From the technical side certain objections may be raised which will have to be correlated with our previous viewpoints or our



knowledge will have to be readjusted. The calorie value of this mixture runs much higher than we have been in the habit of allowing infants. A calorie value up to 70 to 90 per pounds is furnished. Most pediatricians had looked upon 50 calories per pound as a very liberal estimate for any baby. We may have to readjust our ideas or it is possible that there is much waste of food value in the rather large stools which have not been estimated, for which allowance must be made. The matter of food intolerances must also be taken into account, for there are certain families which can not handle fats at all well and there are individuals which will blow up on even small amounts of sugar. However, these will be readily taken care of if the physician adapts the method to the child instead of trying to follow a fixed rule. One must still use brains and knowledge.

The theory upon which this new method is based is quite technical, but may be phrased rather simply for those who have lost their first love for chemistry. The digestion of casein of milk requires the combined action of hydrochloric acid and pepsin. When hydrochloric acid is added to cow's milk quite a considerable amount of the acid is used up by the salts and organic compounds so that the stomach of the baby is not able to secrete enough of the acid to take up the salt and leave enough over to furnish the necessary acid for the pepsin to act. The term "buffer salts" has been applied to these salts which are present in large quantities in cow's milk but in very small quantities in mother's milk. The stomach can be trained to take this increased burden when a baby is weaned but the jump must be made from mother's milk to a much diluted cow's milk. If now lactic acid is added to cow's milk it will take up the buffer salts and the hydrochloric acid of the stomach can then proceed at once to the normal acidification and peptonization of the food. The theory is plausible but it seems also workable and our experience in ward cases is distinctly favorable. It certainly should be tried out more extensively until a just idea may be formed of its usefulness and applicability.

PHILIP F. BARBOUR

**Paralysis Of Left Recurrent Laryngeal Nerve:** Mitral stenosis in rare instances may cause paralysis of the left recurrent laryngeal nerve. One such case is cited by George E. Price, Spokane, Wash. (*Journal A. M. A.*, April 19, 1924). The probable cause of this paralysis is pressure, the nerve being squeezed between the left pulmonary artery and aorta or aortic ligament.

## SPECIAL ANNOUNCEMENTS

### PROGRAM FOR ALUMNI CLINICS

Graduates of the Louisville Medical Schools are expected from all sections of the country during the week of June 2-7 for the alumni clinics which will be held in the City Hospital by the faculty of the University of Louisville School of Medicine.

The annual alumni banquet will be held at 7 p. m. on June 4, at the Pendennis Club, and covers will be laid for 250 graduates. Addresses on the "History of Medical Education in Kentucky a Century Ago," and on "Modern Medical Education," with special reference to preventive and social medicine, will be made respectively by President A. D. Harmon, of Transylvania College, and Dr. Haven Emerson, Professor of Public Health Administration in Columbia University, who is to make a health and hospital survey this summer in Louisville. There will also be a few three-minute talks by three or four of the oldest graduates and distinguished guests.

A special feature of the banquet will be reunions of the classes of 1914, 1904, 1894, 1884 and 1874. The graduates of 1924 will be guests of the alumni in a body. A special committee for arranging class reunions has been appointed, consisting of Dr. L. W. Neblett, Francis Building, Dr. Emmet F. Horine, Francis Building, and Dr. H. A. Davidson, Starks Building, Louisville. The committee in charge of the Alumni Banquet consists of Dr. W. Barnett Owen, Dr. C. W. Dowden and Dr. Emmett F. Horine. The program for alumni clinics at the Hospital is in charge of Dr. Stuart Graves, Dr. Charles Farmer and Dr. Claude T. Wolfe.

The commencement exercises will be held on Thursday, June 5, at the First Christian Church, and it is expected that two women and forty-six men will receive their medical diplomas. The oration will be delivered by Dr. Frederick Charles Hieks, President of the University of Cincinnati.

The members of this year's senior class are as follows:

Miss Teresa Aeree, Indiana; Lorenao Dow Allard, Ohio; Robert Pearl Ball, Kentucky; Max Bornstein, Florida; Hargis Bush, Indiana; George Eagle Bushong, Kentucky; Carmelo Cammarano, New York; Creed Flannery Cherry, Virginia; Armand Earl Cohen, Indiana; David Morrow Cox, Kentucky; Arville Ottis DeWeese, Indiana; D. Mal Embry, Kentucky; George Hiram Finch, Iowa; Harold Greenbaum, Ohio; Samuel Elmer Hainline, Georgia; Pride Edgar Hale, New Mexico; Wayne Harmon, Indiana; Gardner

Ray Harrod, Indiana; Hobart Gilmore Higginbottom, Kentucky; George Butler Hill, Kentucky; F. Wilbur Helmus, Kentucky; Richard Taylor Hudson, Kentucky; John Kenneth Hutcherson, Kentucky; Charles Justice Wheeler, Kentucky; Archibald Donald Kessler, West Virginia; Russell Wilson Lavengood, Indiana; Roy Lynn Mullins, West Virginia; John Alexander Neblett, Kentucky; Hols. William Nyce, Indiana; William Dewey Osborne, Kentucky; Aaron Sumner Price, Ohio; Albert Marvin Price, Tennessee; Will Rowan Pryor, Kentucky; Charles

Edgar Reddick, Kentucky; David Lee Salmon, Kentucky; Harry Hall Sandox, Indiana; Louis Albert Sandox, Indiana; Richard Robert Sigler, Indiana; Stanley Tenant Simmons, West Virginia; Silas H. Starr, Kentucky; Hubert Thurman, Ohio; Charles Dwight Townes, Kentucky; Miss Isabel Buford Turner, Kentucky; Thurston M. Turner, Virginia; Karl N. Victor, Kentucky; Alfred D. Wetherby, Kentucky; Manford S. White, Indiana, and William Harvey Woody, North Carolina.

PROGRAM FOR ALUMNI CLINICS

The tentative program for the Alumni Clinics is appended by the committee of the Bulletin Editorial Board. Following suggestions from several who have participated in the programs of the last two years, the committee has arranged for a more concentrated schedule, but believes it will make up in quality for lack of greater quantity. Most of the clinics will be held in the Louisville City Hospital, affiliated with the School of Medicine as its teaching hospital. A backboard bulletin will be maintained there by the Staff Executive's Office, on which will be posted operations schedule and head graduate surgeons at the other Louisville hospitals. With possible minor changes, the clinic program for the days will be as follows:

MONDAY,—June 2, 1924.

	MEDICINE	SURGERY AND GYNECOLOGY
8-8:50		
9-9:50	Ward Rounds Dr. Jenkins	Ward Rounds Dr. Hagan (Male) Dr. Price (Female)
10-10:50	Amphitheatre Clinic Gastro-Enterology Dr. Lucas	Operative Clinic Dr. Hendon
11-11:50		Operative Clinic Dr. Asman
	Lunch	Lunch
2-2:50	State Board of Health Sixth and Main Streets See Program Below	
3-3:50		
4-4:50		

2:00 P. M.—Demonstration in Vital Statistics.—J. F. Blackerby.  
2:50 P. M.—Maternity and Child Hygiene Demonstration.—Dr. Anne Veech.  
3:00 P. M.—Administration of Salvarsan.—Dr. Jethra Hancock.  
3:30 P. M.—Examination and Diagnosis of Trachoma.—C. B. Kobert, M. D.  
4:00 P. M.—Demonstration—Schick test; administration of toxin-antitoxin; rabies, typhoid and smallpox vaccination.—Dr. L. H. South and Dr. Irwin Lindeberger.  
8:00 P. M.—Special meeting of Jefferson County Medical Society with program for visiting Alumni, in amphitheatre of Louisville City Hospital

TUESDAY—June 3, 1924.

	MEDICINE	SURGERY AND GYNECOLOGY
8-8:50		
9-9:50	Ward Rounds Dr. Frankel Dr. Hale	Ward Rounds Dr. W. I. Hume (Male) Dr. C. G. Arnold (Female)
10-10:50	Basal Metabolism (Fourth Floor) Drs. Moore, Noland and Turner	Amphitheatre Clinic (Illustrated) Malignant Tumors of the mouth Dr. Guy Aud
11-11:50	Amphitheatre Clinic (Illustrated) Epidemiology of Tuberculosis Dr. O. O. Miller	Operative Clinic Dr. Louis Frank
	Lunch	Lunch
2-2:50	Amphitheatre Clinic Neurology Dr. Moren	
3-3:50	Amphitheatre Clinic Psychiatry Dr. Gardner	
4-4:50	Amphitheatre Clinic Obstetrics Dr. Edward Spidel	

\*Also Salvarsan Clinic Dispensary (Basement Bldg. A.)—Drs. Young, Redmon, Edleson, Likins.  
Evening. Class reunions and social affairs for visitors as arranged by local men. Special committee consists of Drs. L. W. Neblett and E. F. Ilorine, Francis Building, and H. A. Daviddson, Starks Building, Louisville.



## WEDNESDAY—June 4, 1924.

	MEDICINE	SURGERY AND GYNECOLOGY	
8-8:50		Operative Clinic Ear, Nose and Throat	
9-9:50	Ward Rounds Dr. Morrison Dr. Maupin	Ward Rounds Dr. Arnold (M.) Dr. Grigsby (F.)	Woodward Drs. Miller and Cases
10-10:50	Electro-cardiograph (4th Floor) Drs. Moore, Noland and Turner	Dr. Wathen Operative Clinic	of Orthopedic Demonstration Plaster Room
11-11:50	Amphitheatre Clinic Medicine Dr. Jenkins	Operative Clinic Dr. Hanes	Amphitheatre Clinic Therapeutics Dr. V. E. Simpson
2-2:50		Amphitheatre Clinic (Illustrated) Pyelography Dr. Hoffman	Ward Rounds Contagious Diseases Dr. Pritchett
3-3:50	Amphitheatre Clinic Pediatrics Dr. Barbour		Dispensary (Basement Bldg. B.) Ophthalmology (Refraction) Drs. Baker and Pirkey
4-4:50	Amphitheatre Clinic (Illustrated) Radium Therapy Dr. D. Y. Keith		

7 P. M.—Annual Alumni Banquet—Pendennis Club.  
Presiding—Dr. George A. Hendon, Louisville Medical College, 1894.  
Speakers—President, A. D. Harmon of Transylvania College.  
Prof. Haven Emerson of Columbia University.  
Reunion Tables for classes of 1914, 1904, 1894, 1884, 1874. (

## THURSDAY—June 4, 1924.

	MEDICINE	SURGERY AND GYNECOLOGY	
8-8:50			
9-9:50	Ward Rounds Dr. Horine Dr. Morris Flexner	Ward Rounds Dr. Neblett (Male) Dr. Fallis (Female)	Ward Rounds Obstetrics Dr. McConnell
10-10:50	Blood Chemistry (Fourth Floor) Drs. Moore, Noland and Turner	Amphitheatre Clinic (Illustrated) Thyroid Disease Dr. L. W. Frank	
11-11:50	Amphitheatre Clinic Medicine Dr. Fleischaker	Operative Clinic Dr. Abel	
2-2:50	Amphitheatre Clinic (Illustrated) Dermatology Dr. Young		Dispensary (Basement Bldg. B.) Ophthalmology Drs. Robertson, Baker, F. W. Pirkey.
3-3:50	Dispensary Pre-natural Clinic (Dr. Pickett)		Amphitheatre Clinic Ophthalmology Dr. Wolfe
4-4:50	Clinico-Pathological Conference (Amphitheatre) Drs. Jenkins, Graves, Weeter		

8 P. M.—Commencement—First Christian Church, Fourth and Breckinridge Streets.  
Presiding—Chancellor John L. Patterson.  
Orator—President Frederick Charles Hicks of the University of Cincinnati.

## FRIDAY—June 6, 1924.

	MEDICINE	SURGERY AND GYNECOLOGY	
8-8:50		Operative Clinic Ophthalmology Dr. Pfingst	
9-9:50	Ward Rounds Dr. Fleischaker	Ward Rounds Dr. Hancock (Male) Dr. Lukins (Female)	Ward Rounds Obstetrics Dr. Rubel
10-10:50	X-Ray Dept. (Third Floor) X-Ray Diagnosis Dr. Turner	Operative Clinic Dr. Hibbitt	Amphitheatre Clinic Anemias of Childhood Patients Shown Dr. Bruce Dr. Grant.
11-11:50		Amphitheatre Clinic (Illustrated) Disease of the Breast Dr. Price	
	Lunch	Lunch	Lunch
2-2:50		Amphitheatre (Moving Picture) Deformities of Infantile Paralysis Dr. Owen	*Dispensary (Basement Bldg. B.) Ear, Nose and Throat. Drs. Watkins, Weinberg
3-3:50			Amphitheatre Clinic Ear, Nose and Throat Dr. Dabney
4-4:50	Amphitheatre Clinic (Illustrated) Focal Infection Dr. L. K. Baldauf		

\*Also Salvarsan Clinic, Dispensary (Basement Bldg. A.)—Drs. Young, Redmon, Edelson, Lukins.

## SATURDAY—June 7, 1924.

Automobile rides to points of interest. Machines will be furnished to those who register in the School office for this purpose.

## SPECIAL ARTICLE

**Obstetrical Column**

Edited by ALICE N. PICKETT

Director of Prenatal Clinic Louisville City Hospital.



MOTHER AND CHILD

## DR. JOHNSON'S SECOND SERVICE

Of the 54 patients reported on this service, 45 had the Wassermann test made. Six cases gave 4 plus, and two gave 2 plus. Three women received antisyphilitic treatment. All the babies lived except two. One child, case 11, was still-born at 8 months. One of twins also died. This mother had received nine treatments. Her case was complicated by eclampsia, (see report under eclampsia).

## SEVEN FETAL DEATHS

Case 2—One of twin babies died—see report under eclampsia.

Case 11—Premature at 8 months—cause, syphilis.

Case 19—See report under ruptured uterus.

Case 20—Miscarriage at 5 months.

Case 26—(See report under Broncho pneumonia.)

Case 32—Premature at 7 months—(see report under foreeps.

Case 37—Premature at 5 months.

## THREE MATERNAL DEATHS

(1 Natal). Lobar Pneumonia).

Case 4. Hospital No. 55567. Dr. Johnson, interne; Dr. Rubel, staff. Para 10.

This patient entered the hospital 5 or 6 days following delivery. She gave a history of having been sick since birth of the child. She was found to have double lobar pneumonia with abdominal rigidity and tenderness and pain. She died three days after admission. The baby lived.

(Broncho Pneumonia).

Case 26. Hospital No. 55047. Para 2. Dr. Johnson, interne; Dr. Rubel, staff.

No prenatal care. This patient entered the hospital in labor. After about 12 hours she delivered spontaneously. The baby had evidently been dead for some time. The patient's temperature was 100.2 on admission. Six days later she died of bronchopneumonia. Her Wasserman was negative.

Case 19. Hospital No. 55692. Para 2. Dr. Johnson, interne; Dr. Rubel, staff.

This woman had no prenatal care. She was so obese that little could be learned from abdominal examinations. She was admitted February 10 and died following her delivery, February 14. The autopsy confirmed the diagnosis of cardiac hypertrophy and ruptured uterus. The following are Dr. Rubel's notes on the case:

"In commenting upon this case the following facts taken from her history should be noted, age 28, para 2, rather heavy set woman with dyspnoea at times. The heart tones were faint and heard with difficulty but no murmurs noted. Her first child was born dead at about 8 1-2 months. This was an instrumental delivery.

The following pelvic measurements were noted: Interspinal 25.5 cm.; intercrestal 25.5; external conjugate 20 cm and the conjugate vera 11 cm.

She was admitted February 10, 1924, and examined by the obstetrical interne. On February 11, at 2 a. m., patient had a bloody discharge and her pains were coming on at 7 to 8 minutes intervals with some progress. This continued for the rest of the day but not much progress noted toward the end of the day. Pulse 70-80 per minute. Enema given at 7 p. m. morphine sulphate gr. 1-6 per hypo. ordered. Fairly good night with occasional pains. Ordered to X-ray laboratory for roentgenogram. Patient had a most uncomfortable day. Rectal examination reveals two fingers dilation, with a great amount of moulding taking place. Pulse 80. Respirations 32. Temperature 98. Late in the night the membranes were ruptured arti-



ficially in the hopes that the head would come down to the perineum and that forceps could be applied. Pains continued and same had to be relieved by morphine sulphate gr. 1-6 per lypo. Vomited some greenish color fluid.

On the morning of the 14th at 7 a. m. the temp., pulse and respirations were normal. The patient refused all food. At 8:30 a. m. free bleeding from the vagina was noted. The pulse jumped from 88 per minute to 124 and the respirations rose to 48 per minute. All evidences of shock and hemorrhage were present. Intense air hunger was a marked symptom. A vaginal examination made at this time reveals a ruptured uterus—the rupture extending through the walls of the uterus. The patient's collapse was complete. Under gas-ether anaesthesia, the head, which had undergone considerable moulding, was pushed up a foot grasped and a rapid version attempted. Due to the large size of the child it was with difficulty that the body was finally extracted and the shoulders released and delivered. Here it was that all our efforts at extraction failed. Forceps applied to the after coming head proved of no avail. Decapitation was now resorted to and the cranioclast applied. After much difficulty the head was finally delivered but at this time the patient's condition was so bad that all of our efforts directed at resuscitation proved of no avail.

Conclusions: In vertex presentations, failure of engagement after two hours of strong second stage labor pains should cause suspicion.

If the contraction ring rises up, the determination of labor by the most conservative procedure is indicated.

The fact that the weight of the child in this case, eight pounds and seven ounces, could not have been estimated, led us to delay until the rupture occurred.

I believe that caesarean section performed after 12 or 24 hours, even in spite of her myocarditis which we were sure she had, would have saved her life."

### THREE FORCEPS DELIVERIES

Cases 21-27 were multiperae—the indication recorded for interference in each case was "slow progress." The mothers and babies were discharged in good condition.

Case 33 was a primipera—the indication for forceps was recorded "slow descent through the outlet." The baby weighed 3 pounds and 9 ounces—was premature at 7 months and died after 14 hours. There were no pelvic measurements recorded and the Wasserman test was not made.

### ONE ECLAMPSIA

(Twins—One dead baby)

Case 2. Hospital No. 554092. Dr. Johnson, Drs. McConnell and Pickett, staff.

This patient, a colored girl, Para 1, entered prenatal clinic in her 6th month of gestation. She had a 4 plus Wasserman and a pressure of 134. She was put on pre-eclamptic routine but she failed to return to clinic. She was visited by Miss McConnell, who found her pressure to be 130. Three weeks after her first visit to clinic, she returned. Her blood pressure was 110 and she was negative for signs of toxæmia. Her pressure the following week was 130 and her urine gave a 2 plus albumin, but no casts. There was some swelling of hands and feet. The following two weeks her pressure remained 118 and the urine was negative—though she had some swelling of hands and feet. Her last visit to clinic was on December 10, just 51 days prior to her delivery.

On December 20 she entered the hospital, believing she was in labor. The pains subsided at once and she was discharged 24 hours after admission to return to clinic. She failed to return to clinic, however, in spite of another visit to her home by Miss McConnell.

On January 28 she entered the hospital for the second time. The routine admission urinalysis was negative. There are no records of blood pressure or abdominal examination, made on January 28 or 29. On January 30 she complained of blurred vision following an uncomfortable night—her pressure was then found to be 165 and a catheterized specimen of urine showed 2 plus albumin but no casts. Two hours after the development of the eye symptoms she went in convulsion. The routine treatment for elimination was followed and good results were secured. Two and one-half hours following the convulsion, twins were delivered by Dr. McConnell, the first by version and the second by breech extraction. The second baby was still-born.

The mother soon regained consciousness and made an uneventful recovery.

I have reported this case in full detail because she was a clinic patient, developing eclampsia. You will note, however, that we got poor co-operation from this patient and for 51 days before delivery she had no prenatal care in spite of the fact that three of these days were spent under the hospital roof. Unfortunately I was on substitute duty December 26 when she spent 24 hours in the hospital. She was discharged, by me, without examination after promising to return to clinic. Neither the interne nor I read over her prenatal chart. Had we recog-

## Hospital Deliveries

No.	Reg. No.	P. O. Care	B. P. R.	Toxemia	Wass.	Prenatal Syph. Tr.	Ch. of Pelvis	Ch. of Del.	Pos.	Wt. Baby	At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	55433	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
2	55409	1	Clinic	169-90	Edampsia	4-Plus	6 mo, 3 Hgs.	Gen. cont.	Spontaneous	R. O. A.	Yes	Living	Good	Good
3	55446	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
4	55567	10	No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	Yes	Living	Good	Good
5	55354	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
6	55434	1	Clinic	136-80	Slight	2-Plus	6 mo, 10 Hg	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
7	55482	1	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
8	55380	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
9	55533	9	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
10	55543	2	Clinic	142-92	Slight	.....	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
11	55621	1	Clinic	Low	.....	4-Plus	None	Normal	Spontaneous	L. O. A.	8 mo.	Dead	Good	Good
12	55613	15	Clinic	Low	.....	4-Plus	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
13	55686	2	No	.....	.....	2-Plus	None	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
14	55110	6	Clinic	Low	.....	4-Plus	4 Sal. 5 Hgs.	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
15	55690	3	Clinic	Low	.....	.....	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
16	55699	2	Clinic	140-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
17	55725	1	No	.....	.....	Neg.	.....	Normal	Breech Ext.	Breech	Yes	Living	Good	Good
18	55440	1	Clinic	140-102	Slight	.....	.....	Normal	Craniotomy	L. O. A.	Yes	Living	Fair	Good
19	55692	2	No	.....	.....	2-1	Contracted	Normal	Spontaneous	L. O. A.	5 mo.	Dead	Good	Good
20	55786	3	No	.....	.....	Neg.	.....	Normal	Forceps	L. O. A.	Yes	Living	Good	Good
21	55524	4	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
22	55796	1	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
23	55835	3	Clinic	140-80	Slight	4-Plus	3 mo.	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
24	55812	4	No	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
25	55344	1	Clinic	.....	.....	Neg.	.....	Gen'l. Con't.	Spontaneous	L. O. A.	Yes	Living	Good	Good
26	55047	2	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	5.15	Dead	Good	Good
27	55871	7	Clinic	Normal	.....	Neg.	.....	Normal	Forceps	R. O. A.	Yes	Living	Good	Good
28	55899	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
29	55886	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
30	55877	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
31	55916	1	No	160-80	Moderate	Neg.	.....	Normal	Forceps	L. O. A.	7 mo.	Lived 14 hrs	L. O. A.	Dead
32	55801	8	Clinic	.....	.....	Neg.	.....	Contracted	Spontaneous	L. O. A.	Yes	Living	Good	Good
33	55960	1	No	130-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
34	55922	1	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
35	55963	1	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
36	55972	3	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
37	55911	1	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	5 mo.	Lived 10 hrs.	L. O. A.	Dead
38	55911	3	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
39	55911	2	Clinic	152-90	Slight	Neg.	.....	Normal	Spontaneous	R. O. P.	Yes	Living	Good	Good
40	55911	8	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. P.	Yes	Living	Good	Good
41	55911	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
42	55911	1	Clinic	130-74	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
43	55911	6	Clinic	144-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
44	55911	10	Clinic	140-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
45	55911	7	No	135-84	Slight	4-Plus	None	Normal	Spontaneous	L. O. A.	Yes	Living	Fair	Good
46	55911	12	Clinic	Low	.....	4-Plus	None	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
47	55911	6	Clinic	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
48	55911	1	No	142-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
49	55911	2	Clinic	146-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
50	55911	3	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
51	55911	2	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	Yes	Living	Good	Good
52	55911	12	No	140-70	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
53	55911	6	Clinic	.....	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good
54	55911	2	No	.....	.....	.....	.....	Normal	Spontaneous	R. O. A.	Yes	Living	Good	Good

## HOME DELIVERIES

No. of Clinic Cases—35  
 No. of Non-Clinic Cases—19  
 No. of Maternal Deaths—3  
 No. of Foetal Deaths—7

No. of Puerperal Sepsis—0  
 No. of Maternal Syphilis—8  
 No. of Retroversion on Discharge—5.

No. of Clinic H. B. P. Cases—16  
 No. of Toxaemia Cases—

{ Slight—14  
 { Moderate—1  
 { Eclampsia—1



nized the woman we would not have sent her out. The demoralization of the day after Christmas is our only excuse.

On her second admission she fared no better at the hands of the service. The nurses later recalled that she slept most of the time from her admission, to her first convulsion, 48 hours later. On recovery, she had no remembrance of these two days. Thus valuable time was lost.

From her initial examination in clinic, when she was only six months pregnant, to her first convulsion, she was never seen by a staff doctor. This is a doubtful source of comfort to Dr. McConnell and to me. To have a clinic patient develop eclampsia and then put twins over on us was most disconcerting. One significant point about this case is the fact that this woman's urine was negative the day before the convulsion and showed only 2 plus albumin and no casts on the day of the convulsion. It is from such cases as this that we have learned how much more important blood pressure records are in the prevention of eclampsia, than are urinalyses.

**The Relation Of The Dick Test To Scarlet Fever:** Charles F. Branch and F. Gill Edwards, Boston (Journal A. M. A., April 19, 1924), made use of a specific streptococcus filtrate obtained from the Dicks in an intradermal test for immunity against scarlet fever in 301 cases. The results were strikingly similar to those reported by the Dicks. The test consisted of an intracutaneous injection of 0.1 c. c. of the 1:1,000 W filtrate, usually on the anterior surface of the forearm, but in some instances of the abdomen. Of sixty-five patients convalescing from scarlet fever all were negative. Three of these patients, including children between the ages of 3 and 12 years, were tested during the first four days of the acute stage of the disease, at which time they gave slightly positive reactions. Testing these three patients again after two weeks, and without any convalescent serum having been used in their treatment, they were found to be negative. Of a second group of sixty-two patients with no history of scarlet fever, twenty-nine were slightly positive, positive or strongly positive, and thirty-three were negative. Of a third group of eighteen patients with no history of scarlet fever, there was one positive and two strongly positive reactions, in children respectively 1, 11 and 2½ years old. Because of the most unsatisfactory histories obtainable in the third group of infants, a reasonable doubt arises as to whether some of them may not have had scarlet fever. If this was the case, the disproportionately large number of negative reactions obtained would be accounted for.

## ORIGINAL ARTICLES

### DIAGNOSIS AND ROUTINE TREATMENT OF PULMONARY TUBERCULOSIS.\*

By O. O. MILLER, Louisville.

In the diagnosis of pulmonary tuberculosis too much stress can not be laid upon a careful and painstaking history. Very often this alone will tend to make a correct diagnosis. Of particular importance is a family history of tuberculosis in which we know a prolonged contact with an open case has taken place during childhood. Many cases of tuberculosis can be traced to this cause. I am of the opinion that most adult tuberculosis is the result of massive childhood infection, which has lain dormant for many years.

Such a history should include the maternal and paternal grandparents, parents, brothers, sisters, aunts and cousins. A casual contact with an open case in infancy is relatively unimportant, although cases have been known where the child has become infected within one hour after birth.

The personal history of the patient should be split up into periods which are easy for him to remember; such as, state of health during the pre-school age, his health during school with history of diseases contracted, and particularly if there has been a prolonged convalescence from any of the simple childhood diseases; the character of employment followed after leaving school and the state of health during this period. The next step is a careful record and analysis of the presenting symptoms of the patient. The various onsets of tuberculosis may be classified as, catarrhal, insidious, hemorrhagic, pleuritic, and neurasthenic.

Under catarrhal we find many cases giving a history of frequent colds, cough and expectoration during the winter months, these occurring with greater frequency and becoming more difficult to obtain relief. Influenza is responsible for the reactivation of approximately twenty per cent of pulmonary tuberculosis being admitted to the sanatoria today. In the history of our cases we will probably find a majority of tuberculosis falling under an insidious onset. In these cases there is a history of loss of well being, malaise, languor, loss of energy, loss of strength. Such a history may be given covering a relatively long period of time.

\*Read before the Muldraugh Hill Medical Society.

In cases presenting themselves at the Tuberculosis Dispensary, Louisville, we consider loss of strength as of prime importance, as a majority of active cases of tuberculosis invariably give this symptom. In those cases giving a history of frank hemoptysis the diagnosis is invariably made for us, especially, if no other cause can be found for the hemorrhage.

Cases of mitral stenosis are easily ruled out and these cases are almost invariably negative for active pulmonary tuberculosis, in fact, we consider mitral stenosis as an almost complete bar to the development of pulmonary tuberculosis. Other causes for hemorrhage are pulmonary abscess, bronchiectasis, pulmonary infarction, injury to chest, acute leukemia, all of which are easily ruled out, leaving tuberculosis as a prime factor in the majority of cases.

Pleurisy with effusion is invariably tubercular in origin and it is most important in these cases to treat the underlying cause, which is invariably tuberculosis. Forty to sixty per cent of pleurisy with effusion develop pulmonary tuberculosis within five years.

Under neurasthenia a moderate number of cases are found giving a history of a nervous breakdown for which no explainable cause can be found. These patients are considerably below par, usually have a low blood pressure and rapid pulse, subnormal temperature, and loss of energy. The pulmonary findings in many of these cases are vague and indefinite. These are intractable to treatment—the outstanding picture being one of neurasthenia. In all such cases tuberculosis should be suspected as the underlying cause. There are five signs or symptoms, any one of which, if present, will make a diagnosis of pulmonary tuberculosis. These are, tubercle bacilli in the sputum, a history of frank hemoptysis, a history of pleurisy with effusion, moderately coarse rales in one apex, a parenchymatous lesion on the X-ray film, and possibly a sixth, dullness in one apex or over an upper lobe.

Tubercle bacilli in the sputum is naturally diagnostic of tuberculosis infection in the respiratory tract. In no case of cough with expectoration extending over a period of one month should this procedure be neglected. It is not sufficient to have one sputum examination made, and from a negative report conclude that pulmonary tuberculosis is absent. In a case where tuberculosis is suspected, ten consecutive sputums should be sent to the laboratory for examination. Should these prove negative another ten specimens should be repeated at the expiration of one month.

A sputum which contains albumen and a large number of alveolar cells is indicative of an alveolitis and as such is suggestive of a tuberculous process. All tuberculous sputum contains albumen, but all sputum containing albumen is not tuberculous.

The second diagnostic sign is a history of a frank hemoptysis for which no cause can be assigned. The expectoration of an ounce or more of blood, especially if it is coughed up is “*prima facie*” evidence that this is from the lungs. It is unusual and infrequent to have such a hemorrhage from the throat. Blood streaked sputum occurring several times in succession in the same day is also of importance.

A history of pleurisy with effusion coming on without any definite cause is a clear indication of a tuberculous process, and in a patient presenting evidence of loss of well being, a diagnosis of tuberculosis is warranted.

The finding of moderately coarse rales in one apex persistently localized, is, in my opinion, pathognomonic of pulmonary tuberculosis. A parenchymatous lesion, on the X-ray film, involving one of the upper lobes, with the characteristic mottling or infiltration, is strongly suggestive of pulmonary tuberculosis.

Dullness in one apex is also very suggestive and with presenting symptoms, from this alone, a positive diagnosis may often be made. The finding of any one of these signs or symptoms in a given case is sufficient for a diagnosis of tuberculosis.

In the physical examination of the chest the usual procedures of inspection, percussion, auscultation and palpation should invariably be used. It is evident that for the proper carrying out of these procedures the patient must be stripped to the waist—for women the shoulders may be appropriately draped with a sheet so as to give access to all portions of the chest.

Under inspection we may note whether the patient looks sick or well; texture of the skin; the presence or absence of axillary sweating; equality of pupils; palor or flushing of cheeks; the bodily nutrition and contour of chest, especially retraction or limitation of expansion on one side; and position of cardiac impulse. Limitation of expansion, if noted, may be confirmed by placing the hands on the chest with slight pressure over the anterior thorax and gently restricting the respiratory excursion. Lagging or limitation of movement may be observed and is of importance.

Percussion is the most difficult of diagnostic procedures and when carefully performed



gives invaluable information. At the same time where impairment is present, not infrequently, a sense of resistance is imparted to the pleximeter finger which is suggestive of underlying pathology. Definite impairment in one apex is important, and if it merges into dullness, is almost diagnostic of tuberculosis infection.

Auscultation is the procedure with which most physicians are familiar and by which most diagnoses will be made. The quality and character of the breath sounds should be noted. Any change from the normal or reversal of type, such as, the presence of bronchovesicular or vesicular broncho breathing, or pure bronchical breathing is of value. Another type of breathing which is characteristic of pulmonary tuberculosis is the so-called granular breathing—this occurs in early lesions and before rales become manifest. Unfortunately its value is somewhat impaired by its close resemblance to muscle sounds, and it only becomes diagnostic when it is strictly localized to a limited area. Particular attention should be paid to any adventitious sounds in the upper lobes. As mentioned above, the writer considers that localized rales in one apex are almost pathognomonic of tuberculosis. These are best elicited by use of expiratory cough. The usual procedure is to have the patient breathe in, breathe out, and just at the end of the expiration to give a slight cough. If an active exudative tuberculous lesion is present this will usually be productive of a series of moderately coarse rales in one apex or the upper lobe. Such a rale may not be able to be heard or elicited by the deepest inspiration—it is only when we resort to expiratory cough that they may be observed. These rales, when present, remain persistently localized and at the completion of the examination, should the area be re-examined, are still found to be present. Such rales may be present for days, or even weeks and months.

It is important to remember that the rales in tuberculosis are the moderately coarse rales and are not the crepitant rales which are to be found in resolving lobar pneumonia. A few effervescent crepitations or clicks in one apex are a more or less common finding and without any changes in breath sounds or percussion note are of no value. Care must be taken to differentiate between sterno clavicular and costo sternal sounds and not confound these with rales.

Whispered voice is of value and an area intensified is suggestive of infiltration. The presence of bronchophony in the upper lobes should be given its due value in confirming dullness in the same area. Absence or

diminution of the normal chest findings is also of value, as not infrequently an apical pleurisy will give signs of definite impairment with a diminution in the whispered and spoken voice and diminished tactile fremitus. This is the so called pleural cap of the roentgenologist.

One of the first things in the diagnosis of tuberculosis, as in any other disease, is to know when to suspect it. The X-ray is an important aid in diagnosing suspicious cases where the findings are vague and indefinite. In the adult, physical examination is the method of choice, although the X-ray is an invaluable aid. Naturally we look for involvement in the upper lobes for a diagnosis of tuberculosis, in fact any lesion in the base we consider as non-tuberculous until we can prove it as being tuberculous. While in the apex we consider all lesions as tuberculous until we can prove them non-tuberculous in character.

From an X-ray point of view cloudiness in one apex with changes in the lung tissue in the same area is also to be considered as tuberculous. From these slight changes one may observe every gradation from mottling and small flaky deposits to consolidation and cavitation. The diagnosis should rest with the clinical and not with the roentgenological findings. It is to be borne in mind that we are dealing with active tuberculosis and not with arrested lesions.

A patient with physical signs without any symptoms does not necessarily need treatment, but careful observation; on the other hand symptoms without any physical signs need active treatment. The treatment of pulmonary tuberculosis, to use a paradox, is both simple and difficult. Simple in relation to the means at our disposal and difficult in the effective application of the principles to the case in hand.

The treatment still rests upon the tripod of rest, good food, and fresh air. To use rest intelligently and secure the active co-operation of the patient is one of our most difficult phases in the treatment of tuberculosis. Too often the patient is given the formula in a generalized way without any explicit instructions as to how to apply it to his particular case. Too often the physician has vague and hazy ideas as to the application of these methods, if such be the case, one is virtually doomed to a failure as far as results are concerned. For the patient a definite and explicit program must be laid down. This procedure should be absolute rest in bed until the patient has had one month's normal temperature—toilet privileges may be allowed in the majority

of cases, unless there are contra-indications. An accurate record of temperature and pulse should be kept for the first month taken at 8-12-4-8. After one month's normal temperature record the patient may be permitted to sit up on a reclining chair one hour per day, increasing one hour per day, until patient is sitting up all day. A rest period from 1 to 3 p. m. must be religiously observed and the patient should be required to undress and go to bed. Should a normal pulse and temperature continue another month under this routine, graduated exercise may be permitted—five minutes walking exercise in the morning and increasing this one minute per day until the patient is walking fifteen minutes. Should the patient at any time have a degree of temperature 99.6, he must go to bed and remain there until he has had three consecutive normal days. When these are obtained he may resume his treatment where interrupted. If the patient is doing well on exercise and is gaining in weight, a similar exercise period may be given in the afternoon.

Exercise is always contra indicated in the presence of temperature, pulse over 100, emaciation, blood streaked sputum, or any serious complication. If in doubt always withhold exercise. Rest is the one fundamental in the treatment of tuberculosis and it can only be abused in the rarest of cases.

The physician should re-examine his case once every month to determine any extension of disease, the presence or absence of rales, and note any improvement in patient's condition.

The patient should sleep out of doors in so far as this is feasible. If circumstances permit, have the family build a sleeping porch, otherwise have the patient sleep in a room by himself with the windows wide open. He should be instructed in the proper hygiene to be observed so as not to infect other members of his family. Of particular importance is the covering of his mouth when he coughs and the use of a sputum cup for expectoration. To further impress upon the patient the necessity for safe guarding other members of his family he should have separate dishes and these should be washed separately.

It is impossible to say how long such a patient should remain under this routine. It will depend entirely upon the amount of pulmonary involvement, resistance to disease, presence of complications and the activity of his process.

In incipient or minimal cases of tuberculosis 6 months is none too long; in moderately advanced cases, without any cavities, 8 to 12

months; in far advanced cases, with good resistance, 1 to 2 years.

Most early cases, under this routine, will show a remarkable amelioration of all symptoms and a definite improvement. By no means is the patient or physician to be misled by such a temporary improvement into thinking that the patient is well and may abandon treatment. Tuberculosis is characterized by periods of activity and periods of latency. It is a common occurrence for many cases to show improvement without any treatment, while others show exacerbations under careful routine management.

For a patient to become quiescent, he must be free from all symptoms for a period of 2 months; to be apparently arrested he must be free from all symptoms for a period of 3 months, sputum to be free of tubercle bacilli and all signs in the chest must be those of a healed lesion. To be apparently cured the same findings must be present over a period of 2 years, during which time he must carry on his selected avocation without any re-activation of his process.

It is patent to all, that tuberculosis is a long drawn-out process a burden both to the patient and physician. The medication in the treatment of these cases is practically "nil," though one must treat the case symptomatically. For night sweats — atropin 1-150 grains with camphoric acid grains 15 at bed time. For cough instruct the patient that 90 per cent of it is unnecessary and that by an effort it can be suppressed. Where persistent, heroin hydrochloride 1-24 to 1-12 grains in any of the usual vehicles is helpful. In less obstinate cases tincture of hyoscyamus minimus 10 to 20 with 2 minims of spirits of chloroform in elixir terpin hydrate drams 1 is soothing and sedative. For pyrexia tepid sponging has little or no effect. The drinking of ice water and an ice cap to the head will usually give some relief. Antipyretics may be employed where pyrexia is preceded by a chill. These should be given in small doses 2 to 3 grains one hour before the onset of the rigor.

For anorexia rest in bed, out of doors, will usually stimulate the appetite, where this fails dilute hydrochloric acid 10 to 20 drops well diluted may be all he needs, as many of these cases are suffering from hypo-acidity. Any of the old "time honored" tonic prescriptions may be used. It is well in all of these cases not to use any medication for a longer period than 10 days, and in no case should any medication be given where it upsets the stomach. Food is 50 per cent of the



treatment in tuberculosis and nothing should be permitted to interfere with the gastric functioning.

For most cases which develop tuberculous enteritis, a most distressing complaint, a bland and non irritating diet is essential and medication should consist of the usual astringents, such as, Haematoxylin, paregoric, syrup of ginger, tannic acid, capsules of gallic acid, and sub gallate of bismuth may be tried. Should these not offer any relief 10 cc of sterile 5 per cent calcium chloride given intravenously lessens peristalsis and will often give relief for a week or ten days.

Hemorrhage is usually alarming to both the family and the patient. It is seldom dangerous, only a few patients die immediately from hemorrhages. In slight hemorrhages, 2 to 4 ounces, feeding crushed ice and cool cloths to the throat with the patient resting quietly on his back may be all that is needed. If the patient continues to bleed — atropin sulphate 1-150 grains combined with 1-4 grains of codeine or 1-8 grains of morphine is the routine treatment. The same treatment may be given in larger hemorrhages and as much as 1-4 grains of morphine administered where the patient appears apprehensive. Pituitrin, ergot, haemostatic serum may be used, but in my opinion are of little value.

The routine after care of such a patient is absolute rest in bed until the sputum is free from all blood for a period of 2 weeks, when they may be permitted toilet privileges. If the hemorrhage was large keep in bed 6 to 8 weeks. In the meantime allay the cough, keep the bowels open, and give calcium lactate 10 grain doses tid, pc, in the hope that it will increase the coaguability of the blood.

If the patient develops a distressing and persistent dyspnoea 2 or 3 days after a large hemorrhage, he probably has developed a tuberculous broncho pneumonia, which will terminate fatally. A guarded prognosis is to be given in these cases.

It is not within the province of this paper to go into the complications of tuberculosis and their treatment, neither is it possible to discuss Alpine Lamp treatment, Tuberculin Therapy, and Artificial Pneumothorax.

The diagnosis of tuberculosis is neither intricate nor difficult, all it requires is careful observation, a careful case history, and the application of the usual diagnostic aemmen that all physicians possess.

The treatment is simple, but for effective results it must be persistently followed over a long period of time.

## TREATMENT OF PUERPERAL INFECTION.\*

By J. T. REDDICK, Paducah.

It has been my privilege and opportunity to engage in a fair amount of obstetrical work for more than four decades, under all conditions and practically all kinds of cases, from work among a primitive people in country log cabins and dirty hovels, in the city alleys, to the best equipped modern hospitals.

I have seen the science and art of obstetrics develop from a practice pursued largely by ignorant midwives, to a distinct definite specialty, with a most comprehensive etiological understanding of the various accidents and complications which may arise, and a knowledge of their prevention.

The longer I practice obstetrics the more I am imbued with the idea that every case of pregnancy and parturition may be a case demanding the skill of the internist and the obstetric surgeon.

Puerperal infection is, we now know, always due to pathogenic micro-organisms. The latest standard works on obstetrical teaching contained no reference to such etiological factors when I began the study of medicine. We are indebted to Holmes of this country, and Semelweis of Europe, for calling the attention of the medical profession to the contagiousness and infectious nature of this disease, and to Pasteur and Hister, perhaps more than others for the development of preventive treatment.

Notwithstanding our progress in obstetrical work we are yet far from the ideal. It is claimed that the number of deaths from post-partum sepsis still continues to average over twenty thousand annually in the registration area of this country and that forty-five per cent of all maternal deaths in the United States are due to infection, and the same figures apply to Kentucky, and this, too, in the face of the fact that it ought to be almost entirely a preventable disease. I doubt if these figures are wholly correct for I am sure many deaths are reported from other causes when they are really due to infection. It has not been an infrequent experience with me in the past, when, in getting a history of the case in gynecological cases and making a pelvic examination I have found a fixed uterus and other evidence of pelvic inflammation and a history of malaria or typhoid following confinement.

Whereas, there has been a marked change in the knowledge of the causes of this disease, there has been also a change in our line

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.

of treatment. A few years ago it was quite generally taught that the eurette and intra-uterine douche were important factors in the treatment of this disease; now, I believe the eurette has no place in treatment except in one form of the disease (of which I will speak later) and the intra-uterine douche also has but one place in treatment. I look upon the uterine eurette as an exceedingly dangerous instrument in these cases and I am sure that I have lost cases through its use that might have been saved, although I was then following a prescribed line of treatment.

While this paper is to be a discussion of the treatment of puerperal infection, yet it is important to know of some of the micro organisms accountable for the disease. The infection is mainly due either to the streptococcus, the staphylococcus, the gonococcus, the bacillus communis coli, the bacillus aerogenes capsulatus or a combination of two or more of them, and the virulence and extension of the disease is governed more or less by the specific organism causing it, as is also the treatment. Laboratory examinations of the lochial discharge are advantageous, but not practical unless one can be in close touch with a good laboratory. I believe that practically all cases of febrile reaction occurring from three to five days after delivery, when the patient has previously been well, are due to infection. They may be slight and local or virulent and general.

The treatment of puerperal infection is prophylactic and curative. Unquestionably prophylaxis plays the most important role in the treatment of puerperal infection. For number of years I have had the pre-natal care of the most of my obstetrical work and morbidity and mortality has been very much reduced.

Polak says "in hospital practice where every detail in aseptic care is given the pregnant and parturient woman, the mortality and morbidity from puerperal septic infection has been brought down to an almost irreducible minimum. In five thousand consecutive confinements attended by the senior students of the Long Island College Hospital in the out patient service, there have been no deaths from infection. These women have all had pre-natal attention in our clinic, and have been delivered in their homes by employment of a simple aseptic technique."

Every pregnant woman should place herself in the care of her physician and he should endeavor to get, and keep her in as perfect condition as possible, to undergo the trying ordeal of labor. Frequent urinalyses should be made, it should be seen that the

various organs of the body function properly, etc., etc.

The patient should be clean, the doctor should be clean morally, mentally and physically. Delivery is a surgical procedure, and it is as important that it should be done in a hospital as any other surgical operation, but that is impractical; then, it is important that it be done with a degree of asepsis as near perfect as possible. Before going into labor the bowels should be moved and preferably, an enema should be given to prevent the soiling of the field of operation from that source. Retain the bag of waters as long as possible, or until there is complete dilatation, because it is a natural dilator, and exerts its effect uniformly in all directions. Never give pituitrin unless indicated and let that indication be inefficient pains and a dilated or dilatable os. Have an anesthetic ready when pituitrin is given for we sometimes have a very quick and energetic action from its use. Do not use forceps unless indicated, but better use forceps than to have vigorous uterine contractions pounding a head down against maternal soft parts without results, wounding the tissues and rendering them more susceptible to, and less resistant to pathogenic organisms. Avoid as much as possible all contusions, lacerations and abrasions of the parturient canal, and repair immediately all lacerations, no matter how insignificant, if they can be readily seen. I am not in favor of the immediate repair of a lacerated cervix except in the event of a ruptured cervical artery, to arrest hemorrhage. Avoid leaving of course, any pieces of placental tissue or membranes as they are suitable culture media for bacterial inoculation and infective invasion. The presence of necrotic decidua or even a retained placenta within the cavity of the uterus will not always produce a septic endometritis. I have known particles of placental tissue, or in cases of abortion, the entire placenta to remain in the uterus for days and sometimes weeks and there has been no constitutional reaction. In delivering the placenta I resort to the Crede method as much as possible; in fact, after the completion of the third stage of labor, let the parts severely alone. Give no immediate post partum douches. I heard a very prominent physician, one who had taught obstetrics in a medical school say some years ago that he did not feel that he had done his whole duty to a parturient woman unless he had used a douche. I did not think then, and do not think now, that is good practice.

If it is necessary to do a manual extraction of the placenta, cleanse the vulva and vagina with pledgets of cotton or gauze and lysol



solution to avoid carrying higher or into the uterus particles of feces or other matter.

#### CURATIVE TREATMENT.

The curative treatment of puerperal infection is a question involving definite decisions and careful study on the part of the physician, and an effort on his part to determine if possible the kind of infection he has to deal with. If the infection is due to a putrefactive organism (*sapremia*), it is usually characterized by fever and an offensive discharge; there is usually necrotic placental tissue, membranes or blood clots in the uterus. It is this form of infection only, where the curette and intra-uterine douche is of benefit. The cavity of the uterus may be explored with the finger and the necrotic debris may be removed with the finger or a dull curette gently used, followed by a intra-uterine douche of lysol or permanganate of potash, care being taken that the douche bag is elevated very little above the body of the patient and the os well opened or a double current irrigator used allowing free return of irrigating fluid. Sometimes it might be advisable to pack the uterus loosely with iodoform gauze, allowing it to remain twelve hours, when many times clots and other debris will come away with it. I have often seen the fever in cases of this kind subside immediately and no further return.

Since this paper was written I have had a case which developed rigors and high temperature the eighth day after labor; the removal of a few small pieces of decomposing placental tissue and blood clots, and a hot intra-uterine douche of lysol solution brought the temperature to normal in a short time and it remained so.

In cases of streptococcal infection there are chilly sensations, continuous fever, tenderness over the uterus and adnexa, no fetor of the lochial discharge, and no demand for local treatment. A local let alone policy I am sure is much safer.

"Infection of the wound excites in the immediate surrounding tissues a reaction with the formation of a more or less complete defensive wall of leukocytes. In many cases this bank of granulation tissue and leukocytes is sufficient to limit the infection to the interior of the uterus and the tissues adjacent to the infected wounds unless nature's efforts are interfered with by the meddling obstetrician. When he does so he breaks through the barrier which nature has placed there to protect the parts against the infecting organism." (Polak).

Allow me just here to quote from De Lee. In speaking of curettage he says: "The deli-

cate bank of leukocytes, the wall nature throws up to limit the spread of bacteria is broken through at innumerable places, and the bacteria literally ground into the lymph spaces and the venous lumina—it is a thorough vaccination or inoculation of the uterine tissues, and resembles raking the soil after strewing it with seed; (b) curettage, no matter how expertly done, can not remove all the diseased tissues. The bacteria, within fifteen minutes after inoculation, are already out of its reach, and, further, at autopsy in cases where the curette had been used, invariably parts of the endometrium could be proved never to have been touched by the instrument; indeed, even the whole placenta has been found; perforation of the uterus is a common occurrence, and almost always fatal from peritonitis; even the greatest gentleness may not prevent such an accident, because in some cases the muscle is soft as butter; (d) hemorrhage from the reopened placental sinuses, even air embolism, has been reported; (e) the freshly united wounds are torn open and new ones created, into all of which infection is ground; (f) a pyosalpinx or other pus sac may be ruptured by the manipulations. It seems about as reasonable to curet the nose and throat in cases of diphtheria as to curet the uterus for sepsis."

"After the bacteria have passed out of the uterus into or through the myometrium, and have entered the lymphatics or blood vessels, it is evident that no form of local treatment, within the cavity of the uterus can have the slightest effect on these infective bacteria. except to push them further along and disseminate their toxins into the general circulation." (Polak).

For a number of years there has been much discussion regarding the use of vaccines and antistreptococcal serum. My experience with the serum has been limited and I am pessimistic regarding it. If used at all I am sure it should be used in large doses and preferably intravenously; but what use could antistreptococcal serum do if the infection was not streptococcal? The patient should be placed in the Fowler position in a well ventilated room with a good nurse and visitors should not be allowed. Everything should be done to quiet the nervous system and encourage the patient. The bowels should be moved and then let alone. The patient should be nourished and stimulated when required. Hot applications over the diseased structures. Many authors recommend ice packs. I am persuaded hot applications are better. I think that the applications invite the leukocytic army to the

parts more than cold. Reduce temperature by sponging; give quinine in tonic doses; ergot to assist uterine involution, which is frequently interfered with by a passive condition of the uterine muscle; morphine hypodermically to promote rest and inhibit bowel action if necessary; normal saline and five per cent solution glucose in solution bicarbonate soda given by the Murphy drop method for their stimulating and nutritive value when indicated, other stimulants when needed and trust a good deal to nature's efforts.

The pathogenic organisms producing puerperal fever are conveyed frequently by direct continuity of structure and by the lymphatics and blood stream to the various pelvic structures and peritoneum and by a pyemic process, to all the organs of the body.

We may have as a result, pelvic cellulitis, salpingitis, ovaritis, etc., etc., which often demand surgical treatment. It would make this paper entirely too long to go into a detailed discussion of the surgical treatment of these various conditions, and they belong really to the abdominal surgeon.

#### DISCUSSION.

**R. C. McChord, Lebanon:** I don't feel that this able paper needs discussion except in one or two instances. I think it is important to understand the true nature of this condition. The doctor has gone into a great deal of care in speaking of the prophylaxis in the case of puerperal infection. I don't propose to go into that. I take no issue with him in that regard because I think his statements are well taken, but when he speaks of interference at all in a case of puerperal with fever infection by local interference, I do most positively take issue.

Recent statistics have shown that the treatment of puerperal infection is one-third better without local treatment than with it. The statistics in the Cook County Hospital in the service of Dr. Hilles in a hundred cases treated by curetment and so forth and then those treated by non-interference show that in every instance the patient fared better by one-third than under local treatment. For instance, the time of the stay of the patient in the hospital was one-third less under no local treatment, the time of the fever was less, and convalescence generally was quicker.

If we consider the true condition of affairs, we know that nature in all these cases has to a certain extent thrown out a leukocytic wall in the uterus, and when we go in there to interfere we simply tear that protecting wall and leave a foci of infection.

The treatment of puerperal infection is very simple and I think it should be stabilized as far

as possible. It should be stabilized so when confronted with this condition a man will know what to do. As I say, there has been a diversity of opinion as to whether you should interfere or not interfere, but I believe recent statistics have shown that they get along better by non-interference.

Dr. Reddick seems to think that hot applications are better than cold. I prefer an ice-bag to the hot application, no food and no purgatives, and if that patient is kept in that condition as a general thing, in five or six days the patient will be fever free, and then is the time, if you have to interfere at all, to do so. I think it is a very dangerous thing to interfere as long as the patient has fever, and I think that should be our rule. It should be an axiom in the practice of obstetrics never to invade a uterus as long as there is fever, because if you let it alone nature will provide those things, except sometimes in a case of hemorrhage. In a case of hemorrhage you have to stop that hemorrhage, and there is nothing better than to tightly tampon the vagina and in most instances after you have tamponed the vagina tightly, it controls the hemorrhage in twelve or twenty-four hours, on removal of the tampon, the offending material is forced out in the vagina. I would insist, and I think it should be impressed on the medical profession, that non-interference in these cases is much preferable both in these complications at full term and in abortion. I don't believe we are justified in going in and stirring up conditions unless it is in the case of very severe hemorrhage, and then possibly he can control the hemorrhage much better by tampon than curet. The curet is a dangerous thing in these conditions. These cases will eventually have to be curetted sooner or later, but never go in until the patient has been at least five or six days fever free, and then you can go in with impunity and do what you please without setting up any trouble.

**J. G. Carpenter, Stanford:** I don't want to be forever talking like the whippoorwill or the owl hollering "Hoo-hoo!" but there is one point in this discussion as to the use of cold and heat.

Cold and heat are both anodynes, astringent, antiphlogistic, analgesic. They control inflammation, they contract the arterial flow and diminish the blood supply to the parts, diminish pain and swelling. Heat is a microbe killer, and cold is a microbe killer if you have it cold enough; so is heat if you have it hot enough and not hot enough to burn or kill the patient. If you use cold it is the Presbyterian way; if you use hot applications it is the Campbellite way by irrigation. It doesn't make any difference which way you do it, hot or cold, the salvation is there if you use it the right way, with or



without other proper medication each case being a law unto itself.

**J. L. Toll, Lawrenceburg:** If I understood the essayist, and I think I did, he made his case clear that in no case of septic infection following delivery is it wise to curette the uterus.

We believe that it is generally accepted that trauma to the lining of the uterus or scraping away the endothelium only increases the infection and promotes absorption.

We further believe that it is accepted as good practice to remove any pieces of placenta that may be left after parturition that may be decaying and by absorption of the products of putrefaction producing fever and other symptoms.

In removing any product of conception that may remain it should be done under the strictest of aseptic conditions and with as little trauma as possible.

But we wonder if we do not occasionally meet with both these conditions at once. Sepsaemia or putrefaction, and a true septic infection in the uterus at the same time.

In this condition we feel that it would be wise to go contrary to the general rule of not entering the uterus when you have a septic infection, but with the bluntest of curette or better still with finger would remove the remaining piece of placenta, thereby removing one of the sources of trouble, and possibly lessening the absorption from the other.

**J. T. Reddick (in closing):** I don't know whether I understood Dr. McChord right or not. I don't know whether he understood me right or not. If there is anything that I attempted to do or wanted to do it was to advocate an absolute let-alone local policy or treatment except in these cases of putrefactive fevers, sepsaemia. Even in cases of sepsaemia we don't always know whether the fever is due absolutely to the putrefactive organism or a combination of the putrefactive organism with a pus producing organism, so I think it is better for us to be on the safe side and remove it.

I agree with the last speaker that a great many of those cases would get well if we didn't do anything, but to be on the safe side I think perhaps it is better to remove those decomposing pieces of placental tissue. In the case that I reported, I had dismissed the case. The fever developed eight days after parturition. When I was called back they reported that she had severe rigors, and I found temperature about 103 or 104 and a very offensive discharge, and I knew there was something rotten in Denmark. I proceeded to use a dull curet; you wouldn't call it a curetment because it was just simply scraping away or removing with a dull curet the decomposing tissues and giving a lysol douche.

and I have seen a great many of those cases of fever come down immediately and remain down with no further trouble.

I do most earnestly advocate a let-alone policy in all these cases except in the cases due to putrefactive organisms.

## REPORT OF SURGICAL CASES\*

By LOUIS FRANK, Louisville.

In lieu of a prepared essay I decided to report a few cases which have seemed of unusual interest to me with the idea of eliciting a free discussion.

Case 1.—July 9, 1923, I first saw M. W., a female, aged 17 years, from an interior town of Kentucky, who gave the history of abdominal pain beginning five days previously. There were the usual classical signs of acute appendicitis and this at the time I saw her was the probable diagnosis. There was a small distinctly palpable movable mass in the right iliac fossa rather high in location. This was regarded as an appendiceal tumor. The abdomen was opened and the appendix removed.

As soon as the abdominal incision was made a very large appendix "popped out" of the wound. When divided the organ was shown to be papillomatous in character particularly at the stump. This mass was trimmed away, the stump invaginated and proper sutures applied. It was thought the excessive enlargement of the appendix itself might be due to a mucocele with obstruction about the base of the appendix, or possibly there might be a papillomatous growth.

On opening the appendix much to my astonishment, there were found within it five fecaliths which are exhibited together with photographs. These concretions were polished where they were lying in contact, one with the other, and looked exactly like gall stones. Under the circumstances had this patient been subjected to roentgen-ray examination the diagnosis of gall stones would probably have been made with the gall bladder lying low in the right iliac fossa.

We have all seen concretions in appendices, but as a rule they are more or less soft in consistency. These are very hard, they are faceted and polished from friction. They must have been present for a long time within a sacculum or cyst of the appendix which permitted movement of the concretions. It is quite possible these concretions may have existed since birth. The appendix was funnel-shaped and the portion containing these

\*Read before the Louisville Medico-Chirurgical Society.

fecaliths had probably become gradually isolated from the remainder of the organ. Convalescence was without untoward incident and the patient made an uninterrupted recovery.

The specimen was examined by Dr. Stuart Graves whose report follows: Gross description: Specimen consists of incised appendix 65x20mm.; reddish gray; lumen contains five fecal concretions varying from 22mm in length by 10 mm in width, to 3mm in length by 2 mm in width. Mucosa reddish gray. Microscopical description: Section shows area of necrosis with intense leucocytic infiltration, chiefly polymorphonuclear leucocytes. Wall elsewhere infiltrated with cells, chiefly round cells.

Case II—The specimen removed in the next case was examined by Dr. Stuart Graves, but I have never been satisfied with his report. Patient, F. B. L., a female, married, aged 31 years, was first seen April 29, 1923. Family history of no interest; patient the mother of one child 4 years old. She had the ordinary diseases of childhood; several attacks of tonsillitis. She was lacerated during child birth; immediate repair. Menstruation regular; last period ten days before admission.

Present illness: Patient gives the history of having had pain in both sides of the abdomen at intervals since birth of her child, four years ago; pain usually worse on left side; attacks quite severe keeping her in bed for a day or two; she vomited during these attacks and had some fever. Four days before coming under observation she had an attack of pain beginning on left side and gradually extending over entire abdomen. She became nauseated and vomited; pain gradually lessened in severity. She stated that her menses had always been regular but very painful, of five days duration; she had to remain in bed the first two days; for the last two or three months the flow has appeared four or five days early and has been very profuse. Appetite good; indigestion at times; sensation of fullness after eating; intestinal functions regular. No cardiac or pulmonary symptoms; some diurnal pollakiuria and burning recently.

Physical examination revealed the perineum normal; cervix uteri soft and partially open. No masses palpable but abdomen very tender; uterus decidedly enlarged and soft, seemingly fixed; duration on right side.

Notwithstanding the fact she was separated from her husband the pre-operative diagnosis of ectopic gestation was made. She was operated upon April 30, through a four-inch incision and the mass exhibited was removed. I also show several photographs of the speci-

men. The mass consisted of a sacculation of the left fallopian tube filled with blood. The left tube at the outer end was the size of an orange and very red. There were two complete twists in the tube between the mass and the uterus. The uterine extremity of the tube was normal. The left ovary showed some cystic degeneration. The uterus was normal in size, soft and friable. There was no free fluid in the cavity.

The specimen was sent to Dr. Stuart Graves, who made the following report: Specimen consists of: (1) Appendix 7x65mm., pale pinkish gray and slightly engorged; mucosa tinged with red. (a) Oviduct and attached ovary: Just distal to ovarian tissue, which is of ordinary size, gray and contracted, mass enlarges into a globular fluctuating portion, reaching 80mm. in diameter, beyond which fimbriated portion of oviduct is seen. After being hardened and photographed, this fluctuating mass is opened and found to be filled with thin, amber colored fluid tinged with red. Wall 5-15 mm. thick, inner surface smooth and pale reddish gray to red, lined in part with a thin, grayish membrane. In one spot on inner surface is a small cluster of pale, rounded racemose elevations, 2-5 mm. in diameter. Tissue easily recognized as ovarian. This portion of otherwise normal ovary shows small simple cysts. Microscopical description: Section through wall of large cavity and papillary masses shown ovarian tissue with round elevations covered with flattened epithelium. Sections through other portions of the wall, particularly where covered with round edge, show tissue densely infiltrated with hemorrhage, so that exact structure cannot be identified, except on one side where it appears to be ovarian tissue. Several sections through ridges show no fibrated mucosa. Section of appendix obliterated with fibrous tissue. Gross and microscopical diagnosis: Hemorrhagic papillary cystadenoma of ovary; simple cysts of ovary; sclerosed obliterated appendix.

The foregoing report was made May 8. We still did not believe the tissue was ovarian in type and asked for further information from Dr. Graves. The following supplementary report was made May 11: "Section from block cut by Dr. L. W. Frank and Dr. Graves at end of obvious ovarian tissue shows at one side a lumen with papillary projections covered with columnar epithelium, evidently a proximal portion of tube, about which is muscle and connective tissue; wall of oviduct congested and moderately infiltrated with leucocytes. Adjoining this is a mass of connective tissue in which are numer-



ous blood vessels greatly distended with blood clot the stroma of which is almost destroyed with hemorrhagic infiltration and masked with diffuse infiltration of leucocytes. The tissue immediately adjoining the small lumen of the proximal portion of the tube is likewise congested and hemorrhagic, but the tissue at the greater distance resembles, insofar as it can be identified, hemorrhagic ovarian tissue and the fact that the lumen lined with epithelium is small and a comparatively unaffected part, rather strengthens the conclusion that the bulk of the tissue is hemorrhagic ovarian tissue."

So far as can be determined macroscopically this specimen appears to be an unruptured ectopic gestation that had become encysted. I was of the opinion that conception had occurred in the tube. The tube was twice twisted upon itself between the mass and the uterus. To me it is a very interesting specimen, but whether it was an ectopic gestation or not, no one can now determine. Dr. Graves' report shows nothing to indicate tubal pregnancy.

The patient made an uninterrupted recovery and was dismissed from the hospital May 13, or fourteen days after operation.

Case III—The next two cases are somewhat similar in type, both being mammary carcinomata. The more recent case will be mentioned first. O. D. V., a female, married, aged 59 years, mother of three children, was operated upon March 4, 1923. Family history and previous personal history of no importance.

Four years ago following trauma she noticed a lump in her right breast. This was diagnosed malignant and she reported that a radical operation was performed at that time by a surgeon in another city. Healing was prompt and she had no further trouble until the present time.

About a week before coming under observation she noticed a feeling of heat, sharp and painful, in the right axilla, and came to us under the belief that she had some further trouble. We found on examination that the supposed radical operation performed four years before had consisted merely of amputation of the breast itself without invading the axilla; the scar did not extend to the axillary region, and I must confess that I am neither surgeon nor anatomist enough to remove the axillary contents without leaving a scar. Both pectoral muscles were present and in the axilla there were a number of enlarged glands. The left breast was normal, no growths. The right axilla contained a nodular, movable tumor twice the size of a hen's egg. Scar of excised breast smooth

and movable. The entire pectoralis major muscle remained. There were no supraclavicular involvements. Examination negative as to tenderness or abdominal masses. No enlarged veins. Liver normal in size. Fluoroscopic examination showed no lymph nodes in chest or mediastinal space.

We completed the operation by removing the pectoral muscles and axillary contents. The axillary vein was completely surrounded by the growth and a portion of the vein (about four inches) was resected. One of the nerve trunks was also excised with the pectoralis minor muscle.

There are two reasons for reporting this case. One is that we hear much talk about radical operations for mammary carcinoma without complete excision of the pectoral muscles and thorough dissection of the axillary space. I believe the surgeons present will agree that this is not a radical operation. Another reason is the fact that we have had in the past a great deal of discussion about venous obstruction on account of the scar tissue. This patient was operated upon March 4, last, a portion of the axillary vein was resected due to the fact that the carcinomatous mass completely surrounded it, yet she has had no swelling of the hand or arm and absolutely nothing resembling edema. The point was well taken by the late Professor Halstead that edema in these cases is due to chronic infection, the result of our operation. If edema were due to obstruction of the lymph channels from pressure of the scar tissue a greater number of cases would be observed.

As a post-operative measure this woman has been treated by deep roentgen-ray therapy. She has had two sances without any appreciable general systemic reaction. We purposely felt the wound open to facilitate radiation of the deeper structures. She has made an operative recovery, but of course it is too early to say whether there will be further recurrences of the malignancy, or whether deep roentgen therapy will be of benefit.

CASE IV.—The last case is also one of breast tumor. I had previously operated upon the patient for a large intra-abdominal abscess following labor. N. E., female, aged 41, married, mother of five children, came to us about the first of April, 1919, with a small breast tumor. The diagnosis was made of a papillary cystadenoma, involving the upper and inner quadrant of the left breast. The tumor in this case was movable, there was no retraction of the nipple, there was no pain, she simply noticed this small growth and came to us for its removal. It had all the charac-

teristics of a benign growth, and the breast was removed under the belief that we were dealing with a benign tumor. The specimen was submitted to Dr. Stuart Graves, who made the following report: Gross description: Specimen consists of breast and overlying skin and underlying fascia. Nipple not retracted. At one side of nipple is a hard mass not well circumscribed which, on section is granular and contains many pockets of yellow necrotic material. Microscopical diagnosis: Adenocarcinoma.

Our post-operative diagnosis as shown on the chart was intra-canalicular adenofibroma of the left breast. The family and their physician were told of the microscopical diagnosis and we insisted that the woman must be kept under observation and frequently examined.

The further history of the case is that about a year ago she began to have some pain and discomfort about the site of the scar, and shortly afterwards a small ulcer developed at the lower angle of the incision. About six months ago she noticed some enlarged glands in the left axilla. We saw her last week when there were noted some definitely enlarged glands in the axilla though not very large, also a growth at the lower angle of the incision on left side, probably the size of a silver quarter; it was rather hard but the skin and structures were freely movable and there was no induration surrounding the growth. We made the diagnosis of skin carcinoma. Investigation of the previous operative record shows that we had not removed the pectoral muscles but did remove its fascia.

The patient was again operated upon a short time ago, the pectoral muscles, deep fascia, etc., being carefully excised, and the axillary space thoroughly dissected, all glands being removed. In this case also there was distinct involvement of the axillary vein very high in the space and it required considerable time and careful dissection to get this clean. Dr. Graves' original report of adenocarcinoma was undoubtedly correct and this explains the secondary growth in the scar and in the axilla.

I am inclined to the opinion that most of the local recurrence in the skin after breast amputations are really implantation recurrences and yet here was a woman who had a primary growth that was not touched by the knife yet she developed another tumor at the lower angle of the incision. It is our custom to use a separate knife in making dissections of the carcinomatous mass and the glandular areas on account of the fear of implantation. In this case I do not know

whether the skin carcinoma is of the same type as the growth formerly removed from the breast as pathological examination has not yet been made. The report shows adenoma carcinoma of the skin and glands.

The first breast operation in this case was performed four years ago, and a few years ago we would have reported the woman as cured of carcinoma after the three-year period. My experience has been that most of the recurrences are noted within eighteen months. Recurrence is infrequent after five years, although we have previously reported one case in which carcinoma of the breast recurred eight years after the primary operation. That woman died from carcinoma of the cervical vertebra within sixty days after symptoms became manifest. We have quite recently seen a patient upon whom we performed nephrectomy for hypernephroma fourteen years ago; he now has a local recurrence of the growth. Carcinoma is like syphilis, it is difficult to say when it is really cured.

#### DISCUSSION.

J. G. Sherrill: I merely wish to discuss the specimen of tubal tumor, the diagnosis of which seems in doubt. This emphasizes the fact that surgeons and practitioners of medicine should be in closer touch with the laboratory side. In other words, if this specimen had been studied in its fresh state, with the pathologist and surgeon both present, I believe a diagnosis could have been made. It is exceedingly difficult at times to determine whether or not the case is one of ectopic gestation after part of the clot has been lost. Usually, however, there is some evidence present of a sac, and the presence of decidual membrane can be demonstrated microscopically. It would certainly avoid confusion if the pathologist and surgeons would work side by side in matters of this nature. I think the laboratory is of great aid to the surgeon.

In the study of mammary carcinoma there is much yet to be learned, we are not entirely certain about many things connected with such growths. I agree with Dr. Frank that in breast cancer the operation should be radical, and particularly where the growth involves the upper and outer quadrant the surgeon should go much higher in the pectoral group of muscles than in tumors of the inner and lower quadrant. We must remember, however, that tumors of the inner and lower quadrant are also dangerous because they may proliferate through the blood vessels into the chest.

There are many things yet to be studied and learned in regard to mammary carcinoma. The book says that 80 per cent of all breast tumors are carcinomatous. If this statement be modi-



fied to read that 80 per cent of all breast tumors finally become carcinomatous, then I am willing to accept it. Such growths are not all carcinomatous from the beginning.

The future may show us much more than we now know concerning the newer roentgen-ray therapy in the treatment of malignant disease. We yet have much to learn in regard to the best methods of handling these unfortunate cases.

**Stuart Graves:** I suppose I have seen literally thousands of appendices, but none have shown the picture presented by the specimen exhibited by Dr. Frank. The five fecaliths are really calcified bodies. Appendiceal fecaliths are usually soft, rounded bodies. Such cases are quite frequent. These specimens, however, are stony hard. Evidently they have existed a long time, as Dr. Frank states, until they have become faceted, not unlike gall stones.

The cancer cases furnish beautiful illustrations of what can be learned by surgical pathology and by having the clinical and laboratory records studied and properly correlated. This is an object lesson as to what should be on record. Dr. Frank's method of compiling his records, specimens and illustrations, make his material of great clinical value.

The other specimen (tubal tumor) is doubtful and I am frank to say I do not know what it is. Dr. Frank is under the impression it is an ectopic gestation. I can not quite conceive of an ectopic pregnancy that does not eventually rupture and is contained within a sac lined with perfectly obvious smooth, thin, gray membrane from which papillomatous projections are springing on one side of the wall. When the specimen was sent to me we made sections looking for the oviduct and the ovary, and we could not demonstrate the oviduct in the wall of this mass. Several sections were made through the wall of the mass at different places; we did not find any evidence of ectopic gestation, and in the wall of the larger portion of the mass no evidence of the Fallopian tube. The small gray mass at one side was very obviously ovary. We made one block from this gray mass and three blocks from various places in the wall of the cyst. There was no evidence of mucosa or any evidence whatsoever of decidual cells or chorionic villi. Ectopic gestation from a clinical standpoint, from a gross standpoint, and from a microscopical standpoint, is fairly easy of diagnosis.

I believe this is an ovarian cyst with papillomatous projections inside it. The walls are hemorrhagic because the cyst has existed for a considerable length of time and has become thoroughly infiltrated with passive congestion. The reasons why I do not believe it is ectopic gestation are: First, we could not demonstrate

any mucosa that suggested a Fallopian tube in the sections; second, we did not find any evidence of decidual cells or chorionic villi; third, what we could identify microscopically looked more like ovarian tissue with a great deal of hemorrhage; fourth, the cyst was lined with perfectly definite thin, grayish membrane. I still think it is not an ectopic gestation; the evidence points toward an ovarian cyst with papillomatous projections; that is the common and therefore the most likely formation.

**Guy P. Grigsby:** In regard to the cases of mammary carcinoma reported, I believe there is something in deep roentgen-ray therapy, and certainly every case that has been demonstrated as carcinoma, following radical operative removals, should be given the benefit of a thorough course of roentgen-ray treatment. I think the majority of surgeons are now resorting to this method. There is a lack of co-operation between surgeons and roentgenologists in some quarters which is not justified. The best interests of the patient are conserved by close co-operation; in no other way can recurrences of malignancy be minimized. Roentgen-ray therapy should be employed in every instance after radical operation has been performed.

As to the specimen exhibited by Dr. Frank, about which there is some question: Judging from its appearance I would say it certainly looks like an ectopic gestation.

**L. Wallace Frank:** I wish to speak of only one specimen, that of the tubal tumor. When this mass was removed I was convinced just as I am now, that the entire tumor was composed of the Fallopian tube. I have many times seen inflammatory tubes become twisted after extensive hemorrhage into their lumina. The ovary in this instance was entirely separate from the tube. The latter was twice twisted upon itself between the mass and the uterus. The specimen was hardened in formaldehyde and a number of sections were examined. I thought at the time it was certainly an ectopic gestation, in which event that we ought to find characteristic tissue on examination, but it seems no such tissue could be found. Much of the material was lost from the interior of the mass.

I believe it was an inflammatory tube which had become twisted upon itself, partial gangrene had occurred, with hemorrhage into the lumen, and this large mass is the tube with the ovary attached to it.

**Louis Frank (Closing)** There can be no question that the specimen (tubal tumor) consists of the Fallopian tube. It was removed from the side of the uterus, it has two twists in it, and the ovary is attached to it and beneath. We are not very apt to have two ovaries on one side, one being supernumerary, attached

by the ovarian ligament which lies underneath the tube, and then have another tube in that position. There was no smooth uterine serosa where this tube came off; it was removed by a wedge-shaped incision. There was one tube and one ovary on the opposite side which were not disturbed. Anatomically, irrespective of what the microscope may show, this specimen is the fallopian tube with its ovary normal and attached. I do not believe now that it represents an ectopic gestation. The villi have probably become detached as a result of the hemorrhage; hemorrhage probably occurred underneath the mucosa which caused it to separate, just as sometimes occurs in the intestinal tract. The papillomatous masses which Dr. Graves found are probably some portions of the loose mucosa with its cells which covered the mucous fold and later became detached. We know this happens following hemorrhage from infiltration of blood under the mucosa which may be entirely separated in that way. This may occur in several types of pathology, for instance in the intestinal tract, in thrombosis of the mesenteric vessels, etc. I would not care if a thing had never been described in textbooks or elsewhere, and no one had ever previously seen it, if I found something that I thought was new I would certainly describe it.

Briefly referring to the cases of mammary carcinoma: I am sure Dr. Sheriff is correct in his opinion, but I would go a step further. I think in tumors about the lower quadrant of the breast, particularly the lower inner quadrant, no operation should be considered sufficiently radical that does not contemplate excision of the fascia of the rectus muscle. This is what is meant by radical operation for mammary carcinoma, and it is only by radical procedures that we can hope to minimize recurrences.

We have much yet to learn about carcinoma. The question of intensive application of the roentgen-ray must be further studied. Investigations in one of the large Eastern hospitals indicate what we have already been told by some of the roentgen-ray therapists that pre-operative radiation tends to disseminate carcinoma and make recurrence more likely. This is because of its action on the white blood cells. Their studies also seem to prove that post-operative radiation tends to lessen recurrences. Another thing, I believe and think we have conclusively shown, that secondary recurrences above the clavicle are not as hopeless as we have heretofore thought them to be. We have a patient living more than five years following operation for recurrence in the supracavicular space, the individual having been treated with radium as soon as evidence of recurrence was noted. Another patient has lived four years; she was also given radium treatment after opera-

tion. This was a very malignant type of growth.

When we talk about deep roentgen-ray therapy I also think we still have much to learn. We are dealing with a factor that is not well understood. Cases have been reported where death occurred, and we have had two deaths ourselves, following deep roentgen-ray therapy following the removal of mammary carcinoma. The changes in the lung are similar to those which occur in pneumonia so far as the physical findings indicate. The patients do not have bloody expectoration nor fever, they have dullness, shortness of breath, etc., there are probably fibrotic changes without blood in the lung, with diminution of the alveolar spaces and exfoliation of its epithelial lining. Death occurs in a manner similar to that due to pneumonia. Death is not rapid as the process is not acute. I believe Hines, of Chicago, has reported two such cases, in one of which there was sarcomatous masses throughout the lung, the terminal changes in and about the alveoli being those of pneumonia. The other case was a carcinoma secondary to mammary malignancy, the lung changes were like those due to pneumonia and there was no pulmonary carcinoma.

We have many problems to be investigated and solved in connection with malignant disease. Where the deep roentgen-ray therapy is employed, blood examinations are very important not only to determine the results of the treatment, but also the progress of the disease.

---

**Four generations of Polymastia:** George H. Klinkerfuss, St. Louis (Journal A. M. A., April 19, 1924), found this anomaly in four generations of one family. In each case but one the left axillary was the one involved. In the case of the mother of the patient swellings were noticed in both axillae. The great grandmother, the great aunt, the grandmother and the mother of the patient gave a definite history of polymastia. Klinkerfuss urges that these tumors of the axilla, enlarging in pregnancy and keeping pace with the rapid enlargement and engorgement of the breast in the early puerperium, should be classed as polymastia. Apparently the masses without nipples have some connection with the normal breasts, possibly by an elongated duct. These accumulations of breast tissue should not be confused with inflammatory processes; and the patient should be assured that they have nothing in common with carcinoma of the breast.



## SURGERY IN DUODENAL ULCER.\*

By FRED W. RANKIN, M. D., F. A. C. S.

Professor of Surgery, University of  
Louisville.

Moynihan, more than twenty years ago, made the remarkable statement that surgery should be regarded merely as an incident in the routine treatment of gastric and duodenal ulcers. Despite this high authority and the fact that it was reiterated frequently, this dictum has never been fully appreciated until very recent years. A better understanding, however, of the diagnosis and pathology of these ulcers, coupled with a certain per cent of unsatisfactory results following various forms of therapeutics, both surgical and medical has caused a closer co-operation between the surgeon and the internist in treatment of these lesions and in consequence, has lead to a much higher percentage of cures than formerly. It is now definitely recognized that a gastro-enterostomized patient is not, as was formerly contended, merely forty-eight hours behind others at meal times, but is a candidate for a rigid dietary treatment for several months after surgery has been performed. It is equally true in treatment of ulcers of the duodenum, as in the treatment of other chronic lesions of the gastro-intestinal tract, that no one form of therapeutics, whether surgical or medical, yields one hundred per cent satisfactory results. That there is a definite indication for medical treatment in a certain group of cases and for surgical treatment in another group of cases and for the combined treatment in the vast majority of cases, I believe is a fact not easily controverted. That medical supervision yields satisfactory results in a large percentage of acute and sub-acute ulcers is self evident, and that medical treatment cures, or at least causes a continued abatement, in many of the lesions in this group is unquestionable. However, the vast majority of ulcers in the duodenum tend to undergo a series of changes, and when these continue over a lapse of time, certain definite pathological processes take place, which, in many instances, demand surgical intervention. The cases of hemorrhagic ulcers unquestionably are surgical, although the decision as to the proper time to attempt extirpation of the ulcer is a matter requiring the highest type of judgment on the part of the surgeon and the performance of whatever surgical procedure is essential, is fraught with a more considerable risk than otherwise.

Obviously the control of hemorrhage and eradication of the ulcer is highly desirable as soon as possible, considering the general welfare of the patient. Frequently the statement is made that patients do not bleed to death from duodenal ulcers, but records of known cases, proven at autopsy, have shown this to be incorrect in quite a number of instances. The chronic obstructed ulcer cases with the typical syndrome which accompanies them, have long been looked upon as entirely surgical even by the most ardent advocate of medical regime.

Bennett, of the Middlesex Hospital in London, in a discussion in a symposium on gastric and duodenal ulcers two years ago, laid down the following indications for surgical intervention in this class of case:

First—All cases with chronic pyloric obstruction.

Second—All cases which have relapsed after one thorough medical treatment.

Third—All cases which give a history extending over many years.

Fourth—All cases with large ulcers adherent to surrounding structures.

Fifth—All cases in which a test meal is retained in the stomach more than three hours.

Sixth—All cases whose economic position make prolonged medical treatment impossible.

Into this last group of cases one is surprised to find what an extremely large number of individuals fall, and it is from this particular type of case that the large majority of the poor end results, following from any form of treatment, comes. These patients, who can ill afford hospitalization over any prolonged length of time, necessarily are prone to relapse following a medical regime, not so much the fault of the medical regime, as their own failure to continue it. Both their intolerance to treatment and their inability to procure the proper dietary measures, most frequently result in a dissatisfaction from the standpoint of both patient and doctor. These divisions of cases requiring surgical attention are for chronic cases only. The acute cases, with the exception of acute perforating type of ulcer, are not included.

The advance in roentgenological technique, particularly in fluoroscopy, has made the diagnosis of duodenal ulcer so certain that should x-ray evidence be lacking, even in the face of typical anamnesis, the possibility of finding an ulcer by operation is small; and in consequence of this, one is almost certain to err in diagnosis on the side of the x-ray man as frequently as on the side of the clinician. An obvious collary also is that no

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.

case of duodenal ulcer should either be considered a cured case by medicine or surgery, where treatment has been instituted for symptomatology alone. Without adequate x-ray evidence of the presence of an ulcer, there is always a question of its existence, unless it is demonstrated accurately at operation; and it is equally true that no operation should be performed upon the stomach for the relief of ulcer unless an ulcer is demonstrated, despite the fact that the history has been a typical one.

The types of surgical procedure, which have been popularized by long usage and have proven satisfactory in the treatment of these lesions, are as follows:

First—Gastro-enterostomy.

Second—Excision of the ulcer either by knife or cautery and gastro-enterostomy.

Third—Excision of the ulcer and pyloroplasty, preferably of the type of Finney

Fourth—Excision of the ulcer without gastro-enterostomy after the method described by Judd and myself.

Gastro-enterostomy, which was first done for ulcer in 1893, by Doyen, although it had been done twelve years previously for pyloric obstruction due to carcinoma, has been so thoroughly established from the standpoint of technique, that few changes are apt to be made in its application. Certain fundamental principles have been established through usage and experience which stand out as entirely essential to its successful employment.

First—the gastro-enterostomy must be done posteriorly and with the loop running from right to left. Although this loop is very short and is designated by some as a no loop type of operation, there should be sufficient play to prevent tension on the suture line or subsequent distortion of the stomach.

Second—Only absorbable material should be used in the suture. So many gastro-enterostomies have been done with tannic acid catgut, that there is no longer a necessity of a permanent suture material in performing this operation for benign lesions of the stomach.

Third—The opening in the transverse meso colon must be properly sutured on the gastric side of the anastomosis to prevent angulation and subsequent strangulation of the jejunal arm of the stomach.

With these technical precautions adopted, the post-operative convalescence from this operation is entirely satisfactory, so much so that with the exception of the fractional per cent of cases which develop a toxemia due to absorption of duodenal content, there is nothing resembling the old vicious circle in their

convalescence. The practice of performing an anterior gastro-enterostomy, when the posterior type is difficult for anatomical reasons, is one which is rapidly falling into disuse. This type of operation was most frequently employed in obstructed cancer cases but rarely used in benign cases. It is an operation which I believe should be supplemented with an entero-enterostomy between the loops of the small bowel when it is absolutely necessary to perform it. The question as to whether the action of gastro-enterostomy in relieving the symptoms for which it has been done, is a physiological one or merely a matter of mechanical drainage is still discussed by surgeons and internists with considerable heat and with opinion about equally divided on both sides.

Moynihan believes that gastro-enterostomy acts merely in a mechanical way, draining the stomach and preventing the passage of the acid gastric juice over the eroded duodenal lesion. Patterson and many others disagree with him and insist that the changes are physiological ones. Certain it is that in gastro-enterostomy, the bile enters the stomach with the effect of reducing the acidity present and it is this method of permitting the patient to use his own drug store in the alkalization of the gastric contents that adds weight to the contention that the operation is a physiological one.

That the stomach tolerates bile well when other things are equal, is proven by the successful performance of cholecystgastrostomy in many cases of carcinoma of the pancreas obstructing the common duct. The acidity of the stomach following gastro jejunostomy is markedly and immediately lowered, but the fact that in simple excision in ulcer of the duodenum without gastro-enterostomy the gastric acidity is lowered one-half also lends favorable argument to the change of physiology in the organ. On the other hand it has been long contended that the best results from gastro-enterostomy in the hands of the majority of operators are obtained in those chronic ulcers which have caused obstruction to the pylorus through cicatrization or in that second group of cases so nearly approaching this condition symptomatically, but due to the derangement of the gastric innervation, producing marked pyloric spasm.

Failure of satisfactory results in gastro-enterostomized patients have been divided by Moynihan into three main groups:

First—Technical failures. This includes the failure to select the proper loop of bowel for operation as well as the failure to make the anastomosis in the proper place on the stomach wall, as well as the use of non ab-



sorbable material for the anastomosis and the failure to properly close the hole in the transverse meso colon.

Second—Incomplete operation whereby a diseased organ, such as an appendix or gall bladder, has been overlooked and consequently there has been a recurrence of symptoms.

Every surgeon who operates on gastric and duodenal lesions is familiar with the frequent occurrences of a chronic or sub-acutely inflamed appendix during the routine exploration of the abdomen. Indeed this is such a frequent occurrence that it has led to considerable discussion as to whether or no the appendix has been the principle focus of the disease. In a small percentage of cases the gall bladder has been found to be the site of infection.

Rosenow's work has proven that duodenal ulcers can be produced experimentally by the injection into animals of organisms taken from the teeth and tonsils. It is obvious that this class of failures contains many patients whose relief is entirely in the hands of the surgeon, who should not be merely content with operating on the local lesion, but should make sure that the foci of infection, which might possibly be the underlying etiologic factor, are removed.

Third—Cases in which a gastro-enterostomy has been done for gastric symptoms but in which there was no ulcer present. It is most unfortunate that this class of failures, which is and should be charged to the operating surgeons, contains so many cases. Without actual demonstration of the lesion-present, no surgeon should allow himself to be persuaded into doing a gastro-enterostomy for symptomatology. In every large clinic in the country one may find records of unnecessary gastro-enterostomies which have been done for symptoms and not for pathology, and it is only the recognition of the fact that the pathology must be present without a doubt, that is going to lead to a firmer basis for gastric surgery.

To these three groups W. J. Mayo recently, in reporting a series of cases of end results in duodenal ulcers, had added two other classes of failures.

First—Those which are due to faulty dietetics following operation.

Second—That group of cases in which the formation of gastro jejunal ulcers occur.

In this series of cases reported the unsatisfactory results in cases of duodenal ulcer were only five per cent and it is reasonable to believe that the high per cent of cures is unquestionably due, in a large measure, to the co-operation of the surgeon and clinician in the post-operative treatment.

Group four, gastro jejunal ulcers. From the standpoint of the surgeon this is one of the most disappointing types of failures whose etiology is still little understood and whose cure is most difficult. That this marginal or stoma ulcer occurs in from one to three per cent of gastro-enterostomized individuals has been definitely proven, by Bolten and Trotter, Eusterman and others. In 101 cases of gastro jejunal ulcers reported by Judd the presence of foreign material was demonstrated in only about seventeen per cent. These ulcers occur from six to eighteen months following gastro-enterostomy and their symptomatology was practically identical with that of the original lesion, save that there was a more constant pain which was not relieved by food or alkalis and which had a tendency to be lower down and to the left of the umbilicus. Occasionally these ulcers form fistulas between adjacent viscera and I have recently reported six cases of gastrocolic fistulas resulting from a gastro jejunal ulcer.

Medical treatment offers little to these cases and surgical procedures, which offer them cure, are difficult of performance and attended by considerable mortality. Having once developed a jejunal ulcer, it is well known now that a second gastro-enterostomy is poorly tolerated and this fact makes it essential that excision of the ulcer should be followed by either an excision of the original ulcer with or without a plastic operation on the pylorus or by a pylorectomy. It is interesting to note that these marginal ulcers are almost invariably on the jejunal side of the stoma and in one case reported by Sistrunk, the ulcer was found to be 10 cm. down the distal loop.

Perhaps it was the desire to guard against recurrences of hemorrhage which take place in a percentage of ulcers, that lead to the popularization of the excision and gastro-enterostomy type of procedure. This excision, whether carried out by the method of Balfour with the cautery or by the excision with a knife, was followed by a gastro-enterostomy and in certain cases, as for instance the hemorrhagic ulcers, it is an ideal procedure. Only a small per cent of hemorrhagic ulcers bleed following simple gastro-enterostomy. The third type of operation, that of Finney, is an admirable procedure, and has proven most satisfactory in a properly selected group of cases.

The excision of duodenal ulcers without pyloro plasty or gastro-enterostomy is an operation which I believe has a good pathological basis for its employment and the satisfactory end results in a large series of cases

convinces one that it has a wide field of usefulness in properly selected type of lesions. I recently published with Judd of the Mayo Clinic, a description of the technique of this excision as we have employed it for the past four years. During this time we applied it to over 250 cases and in tracing them up, found that the results had been most gratifying. That it is not applicable to a great many duodenal ulcers is obvious. Its application to hard callused endurated ulcers, which are attached to surrounding viscera is not feasible for the reason that such a procedure entails entirely too high a surgical risk. In the bleeding type of ulcer, which can be approached without too extensive manipulation, this excision seems ideal. We found also that many of the cases whose chief symptom was pain in their right upper quadrant of the abdomen and whose history was of short duration, were best treated by this method. It is essential that the duodenum be mobilized before successful excision can be accomplished. Finney has demonstrated in his sub-total pylorectomy that much of the blood supply of this organ may be freely sacrificed. The ligation of vessels on the superior border, as well as the ligation of many of the branches of the pancreatoduodenal artery, may be accomplished without fear of necrosis at the suture line. The ulcer is incorporated between two curved incisions, the upper one of which has its concavity pointing downward and its fellow of the opposite side being concave from above downward. The location of the first line of incision merely extends through the peritoneal coat and outlines the amount of duodenal wall which is deemed necessary to sacrifice. The second step of the operation extends the incision through into the lumen of the bowel and permits inspection of the posterior wall of the duodenum and the pyloric opening of the stomach. This incision, in many instances, has revealed multiple ulcers situated posteriorly, which could not be demonstrated by the sense of touch. Their location generally is found immediately below a fold of mucous membrane which is constant and is situated just at the point where the mucosa of the stomach is undergoing transition into the duodenal type. The fact that most duodenal ulcers occur on the anterior wall of this organ, nearer the upper than the lower border, makes its application ideal when the local conditions are such that mobilization can be accomplished. The posterior ulcers are generally destroyed by cauterization with the actual cautery and by suturing over the raw surface with catgut. Should there be a spasm of the pylorus, which is

demonstrated by digital examination the splitting of the fibers of the pyloric muscles, after the method of Ramstedt, is a valuable addition to the technique. The closure of the duodenal wall, following an excision is made in its transverse diameter, the mucosa being first closed separately and the muscle and peritoneal coats being approximated by another layer of sutures. We had no leakage in any of our cases nor did we find the use of silk necessary. In no instance was it necessary to do a gastro-enterostomy because of pyloric stenosis following the excision. The end results, from a functional standpoint, were satisfactory and we believe that there is a wide field of usefulness for this type of procedure provided it is applied in the proper case. It should be remembered that no type of operation is applicable to all groups of cases but that each type of ulcer is best treated from the standpoint of the surgeon, by an operation whose indications have been proven by usage and experience. Also, one of the most important factors in the surgical treatment of duodenal ulcers is a close and harmonious co-operation between the clinician and the surgeon, both before and after operative procedures are applied.

#### DISCUSSION.

**Irvin Abell, Louisville:** I think Dr. Rankin's paper has been a very fair and very conservative and very complete one, covering the surgery of duodenal ulcer. The time has gone by when physicians claim to cure all cases of ulcer or the surgeon claims to cure all cases of ulcer. I think we realize that it is only by the combined work of both that the best results are to be obtained. There are several points in Dr. Rankin's paper that I would like to emphasize, first as to the character of cases or the type of cases upon which operation is best or most indicated; hemorrhage in which the results will not always be of the best, chronicity in which the results will not always be of the best; obstruction in which we get the best results from operation, and finally the acute perforations.

As to the type of operation, he has mentioned practically all of those which time and experience have demonstrated to be of value, and I think each individual's experience will be his guide in determining which type of operation he employs.

There has been and is a growing feeling in the minds of all of us that any operation for ulcer to be satisfactory must include the destruction or the removal of that ulcer. In my own practice we have been excising all duodenal ulcers that were accessible. In other words, when situated on the anterior wall where examination of the interior of the duodenum has



shown that this was the sole ulcer, we have done no subsequent gastroenterostomy, contenting ourselves with simple excision. The results in that group, while it is a comparatively small one, have been very satisfactory.

Where multiple ulcers have existed or where there has been a partial perforation of a fixation to the head of the pancreas, for instance, we, of course, have had to do a gastroenterostomy and treat the patient subsequently by means of dietary measures. In that group of cases there have been unsatisfactory results. In the cases in which there has been a marked obstruction of the pylorus, a gastroenterostomy alone has been done with almost universally satisfactory results. Where the ulcer has been situated on the anterior superior wall, where it has been immediately adjacent to the pylorus, we have done the Finney operation in a limited number of cases and those have given very satisfactory results.

My own experience with gastroenterostomy is that we have a larger percentage of patients not completely relieved of annoying symptoms than we have after either of the other procedures mentioned, consequently we have employed it only in the cases mentioned where we have been unable to absolutely remove any visible ulceration.

I do believe, as he has stated in his paper, that if we are to have symptom free patients it means a prolonged dietary treatment subsequent to the operation. I don't know in my own mind the exact limitations, certainly not under six months and preferably one year, when subsequent examination at the end of that time finding the patient in good condition possibly might allow us to prescribe a more liberal diet, surely, though, the co-operation of the internist is absolutely essential if we wish to have ultimately a perfect functional result.

**F. W. Rankin (Closing):** I just want to emphasize the necessity of the co-operation between the internist and the surgeon before and after operation. We are dependent upon him largely for the diagnosis of these lesions in conjunction with the roentgenologist, and I think there is no question that our best results will be gotten by the co-operation afterwards in the matter of diet.

As Dr. Abell has said, I don't know where we can put an arbitrary limit on the diet, but our practice has been to make it six months as a minimum, and possibly to carry that on over into nine or twelve months.

This operation which I showed pictures of is one that we like very much, but I must confess it has a limited field for application. The vast majority of ulcers unquestionably continue to be treated surgically by gastroenterostomy with or without destruction of the ulcer, but in an easily

mobilized duodenum where you can get at the ulcer without too great a risk of doing too much surgery, I think it is an ideal operation.

There is just one point about the X-ray appearance of the duodenum following this excision. Should this patient come back to you with an unsatisfactory result, your X-ray examination will be entirely unsatisfactory because you have removed the cap of the duodenum and you will always have the deformity in any roentgenograms taken subsequently.

## ERYTHEMA MULTIFORME FOLLOWING THYROIDECTOMY: CASE REPORT.\*

By WILLIAM J. YOUNG, Louisville.

A female, aged 32, was operated upon for goiter October 11, 1923. Four days later an eruption appeared on her arms and legs. This eruption is typical papular erythema multiforme with some hemorrhage areas in the spaces between the lesions.

The case seems interesting because it is certainly unusual. Of course we often see cases in which intense urticarial lesions are entirely relieved by thyroidectomy from hyperthyroidism; but in this instance the eruption appeared four days after operation.

I do not know that there is any connection between the operation and the skin lesions and am simply reporting the case to inquire whether the surgeons have seen similar cases.

## DISCUSSION.

**J. E. Hayes:** I am unable to see any connection between the operation and the cutaneous lesions. I understand the patient had not previously had any skin disease. It may be that after the operation some drug administered might be a factor in production of the skin lesions.

**Leu's Frank:** As suggested by Dr. Hays, the skin lesions might be the result of some drug administered after operation. On the other hand, I see no reason why the withdrawal of such an active secretion from the circulation as is present in the hyper-active thyroid gland might not also have some effect on the skin with production of the lesions mentioned. We know that cases have been reported where skin lesions disappeared after operations upon the endocrine glands. Just what connection there is between the secretions of these glands and the eruption was not mentioned by the report, but it seems to me that if these secretions can have the effect of producing skin lesions that possibly the withdrawal of these secretions from the blood might have a similar effect.

\*Read before the Louisville Medico-Chirurgical Society.

**L. P. Spears:** It might be interesting if the doctor would give this patient some thyroid extract and see what the effect would be. This might demonstrate whether thyroidectomy had anything to do with production of the cutaneous lesions.

**W. J. Young (Closing):** I am inclined to agree with Dr. Hayes that the skin lesion is merely an incident and has no bearing on the operation. My reason for reporting the case was that we know urticarial lesions are often relieved by thyroidectomy. Further I desired to inquire whether the surgeons had observed similar cases.

#### URINARY INCONTINENCE FOLLOWING SUCCESSFUL OPERATION FOR SPINA BIFIDA: CASE REPORT.\*

By MORRIS FLEXNER, Louisville.

This boy, aged 12 years, from the mountains of Kentucky, was sent to the Childrens' Free Hospital about a week ago to determine whether anything could be done to overcome his urinary incontinence. We know little about the history, all the information we have being obtained from the boy himself. When asked about a scar on his back he said he was operated upon when six months old by Dr. Lee Heflin, of Louisville. We then communicated with Dr. Heflin, who said he recalled the case, that he had operated upon the baby removing a spina bifida the size of a large orange, that two or three Louisville surgeons had refused to operate, that he had seen the child only once after operation and that was when he was about a year old. At the time of operation the child was completely paralyzed in both legs. He has had urinary incontinence since the operation and has worn a urinal constantly. It will be recalled that about a year ago Dr. Guy P. Grigsby exhibited before this society a baby he had operated upon successfully for spina bifida a short time previously, and I thought the present case might also be of some interest.

This boy is fairly well nourished and apparently normal mentally. He is able to walk fairly well but has a peculiar swaying gait. The result secured to me is little short of marvelous.

I would like for the surgeons present to tell us what, if anything can now be done, to overcome the urinary incontinence.

#### DISCUSSION.

**W. E. Gardner:** It certainly seems remarkable that this little patient has progressed so favorably for such a great length of time after operation for spina bifida. We know that it is not the rule in such cases. He seems to be normal mentally. He says he has been unable to attend school regularly so his mental capacity can not be accurately determined, but he appears unusually bright.

He has a slight "sway-back" with increased fat about the buttocks which resembles the pictures we have doubtless all seen of pseudo-hypertrophic muscular dystrophy. This may be purely a coincidence without any relationship to the spina bifida. His knee jerks are greatly diminished, in fact almost absent, which also would indicate that he may possibly have some anterior horn involvement.

The incontinence from which he has suffered all his life indicates that sphincter control from the lower spinal segments has been permanently destroyed, and I do not believe any sort of operation at this time would offer much hope of improvement.

**Guy P. Grigsby:** This is the only patient I have seen who has attained the age of 12 years after operation for spina bifida without the development of more serious trouble. I think there is a very thick-walled sac and introduction of the needle would probably demonstrate the re-accumulation of fluid. Possibly the communication with the spinal canal is very small. That there is quite a large bony defect has already been demonstrated by roentgen-ray investigation.

I saw this patient in the hospital for a short time this morning, and from the examination made hardly feel like suggesting anything further in an operative way. I can not see very much hope from surgery unless a large sac is present as suspected. The removal of this might permit a better and more effective closure and his bladder condition might be improved. I feel, however, that there is very little hope for accomplishing anything further by surgical treatment.

**Owsley Grant:** The most interesting feature in this case to me is the cause of the urinary incontinence. Is it due to nerve injury at the time of operation for spina bifida? Is there now some pressure because of changes resulting from the operation, or is there absence of the nerve as a congenital malformation? I see no way in which we can hope to definitely determine this point. If the incontinence is due to nerve pressure, something might be done to relieve it; if the nerve is congenitally absent, I do not see how anything can be accomplished.

\*Clinical report with exhibition of patient and roentgen-ray plate before the Louisville Medico-Chirurgical Society.



**Morris Flexner, (Closing):** Dr. Grant has mentioned the main reason for bringing this boy before you for examintaion, i. e., to determine if possible whether or not something can be done to overcome the urinary incontinence. My personal impression is that probably the nerves supplying the vesical neck were destroyed either at the primary operation or are congenitally absent.

I do not believe there is now much fluid in the soft mass overlying the site of the former spina bifida. I think it is a mass of fatty tissue, but in this I may be wrong. I hope Dr. Grigsby will exhibit the courage of his convictions and introduce a needle to demonstrate this point. It seems to me if there were re-accumulation of fluid there would now be a greater amount of tension.

The most encouraging feature is that the boy's mental condition is apparently normal. It is the only case I have seen where the patient retained all of the benefits derived from operation for this particualr malformation.

A needle was introduced three times in various directions for a depth of three inches into the mass. No fluid was obtained. Very little pain was felt by the patient, showing undoubted destruction of the sensory nerves to this area.

**Dish Towel as Source of Infection With Tubercle Bacillus.**—In a series of twenty-five instances of guinea-pigs inoculated from the washings of dish towels used by tuberculosis patients no positive results were obtained by Floyd and Sikorsky. In three control experiments, in which gauze was thoroughly impregnated with viable tubercle bacilli and thoroughly washed, no positive results were obtained. The most reasonable explanation of these negative results would seem to be that the strong alkali soap or soap powder used for a period of weeks in the home must very deleteriously affect any viable tubercle bacilli that may be caught in the meshes of the dish towel and either kill them or so impair their vitality as to make them unable to produce infection in small numbers.

**Recovery After Removal of Tumor in Parietal Lobe.**—Fracassi's patient was a girl aged 12 who had complained of frontal headaches for nine months. They lasted for five or six hours and returned at intervals of two or three days, and were sometimes accompanied by vomiting. After the sixth week there was formation in the right side of the body with weakness and paroxysmal limping on that side. Six weeks before she entered the hospital, vision in the right eye and two weeks later in the left became impaired. Tympany in the left parietal region and pain on percussion confirmed the assumption of tumor, and the glioma was removed at a two-stage operation.

## PLACENTA PRAEVIA.\*

By E. A. STEVENS, Mayfield.

In 1920 there were sixteen nations whose vital statistics were considered reliable. These statistics when composed placed us as unlucky thirteenth on the list in high maternal mortality during and following labor, but three nations having a worse record. In 1921 the number of nations keeping reliable statistics had increased to twenty-two and we stood twentieth.

The best statistics in placenta praevia give four per cent for mothers and fifty per cent for the children. This is for experts in hospitals and I suspect that in the home in the hands of the general practitioner the death rate for mothers is almost as high as for the children. DeLee is one of the few men who reports the mortality in the neighborhood of four per cent for the mother. Most of the statistics place it much higher. Futh collected seven hundred and twenty-six cases in private practice near Coblenz, Germany, with a death rate of nearly twenty per cent. McPherson gives the New York Lying-in-Hospital two hundred and fifty cases, reported a loss of eighteen per cent. My opinion is that the death rate in private practice is above twenty per cent. Since the mortality is this high no apologies need be made for a paper on this subject. Nothing new is offered, but we should attempt to do the work better than we have been doing it, for evidently some nations are doing it better than we are.

I belong to the class of general practitioners, and it is this class that will deliver most of the babies in this country for years to come, and it is the work of this class I wish to discuss. Before beginning this discussion I shall give the history of two interesting cases of placenta praevia, neither of which I saw, with both of which I was familiar, and both occurred during the first years of my practice.

Mr. S. came to my office to consult me about his wife, stating that she was due to be confined in a short time, and that he did not expect me to attend her, but that his family physician was not available, and that she had some symptoms she did not understand, and she was worrying about them. He did not think they were important. She had an unusual feeling of discomfort in the lower abdomen, and for the past few mornings when she awoke she found small blood clots that had passed from the vagina during the night, and she flowed a little when she went

up the stairs. She had no pains at any time. I told him she probably had placenta praevia, a very dangerous condition, and to lose no time in getting the informatoin to the doctor he expected to use at labor, that both wife and baby were in great danger. He seemed to think that I was an alarmist, and did not appear impressed, but after about ten days he went to Louisville to consult a physician whom he knew. The Louisville doctor thoroughly frightened him, and he returned on a 9 o'clock train at night. At 11 o'clock the same night she was taken in labor, and at 5 o'clock the next morning she was dead. I understood afterward that his plan was to put her on the next train to Louisville so she could be in a hospital, and have me accompany her. Fortunately for me the labor came on that night, or I might have been with the case in a Pullman drawing room, without equipment to handle it, with two dead on my hands at the end of the run of seven hours.

The other was that of a farmer's wife, who died of placenta praevia, and he was so dissatisfied about it that he consulted doctors over two or three counties to see if he could get someone to advise him to sue for damages, but failing in this, he got some medical books to study the subject for himself. He became so interested that he continued the study of medicine, and is now practicing in one of the western states. I have thought it might be a good lesson for him to be caught in a small home without equipment, and have to undertake a case of placenta praevia alone. He might be better satisfied with the failure of the other doctor to save his wife.

My own experience consists of six cases all in the home, three of my own, and three in consultation. All the mothers and three of the babies survived the ordeal. In one the labor was induced by the use of de Ribes bag at the end of the thirty ninth week. One at the end of the thirty second week, and in the other four the labor was voluntary. Five I turned and delivered. The one in which I used the de Ribes bag, was delivered by nature's forces following dilation with the bag. Four of the babies were large, and two were small. The two small ones, and one of the large ones were the ones that survived. I lost one by reason of a short cord that got between the child's legs, and I could not deliver it until I broke the cord with my hand up in the uterus. One I think was dead before I reached it, and another died on account of the time it took to deliver the after coming head. The three I saw in consultation were delivered at my first visit. One of my own was in labor when I reached her,

and in another I induced labor as soon as I could get ready. In one the mother was so anxious for the child that she persuaded me to wait and put a trained nurse with her to watch her until the labor or hemorrhage demanded attention. She was to notify me when the hemorrhage began, but she did not do it, and when I called I found she had lost considerable blood. I came near losing her from collapse after the labor was over, and I think it was due to the blood lost before I was notified. If it were to be done again, I should not advise delay. Three had no post partum hemorrhage. In one it was mild, and in two severe. I have known of at least one case in a hospital where the patient bled to death before the intern could reach her, though she was in the hospital at the time.

Placenta praevia does not come very often in the experience of one general practitioner and when it does come it brings with it, when severe, one of the most trying experiences a doctor ever has if he is without medical assistance in a farm house, miles from help and the probable loss of two lives looking him squarely in the face. It is quite different to handle this condition in a hospital, with help and all necessary equipment and in a home on a low bed with no assistance of a competent character. There are few men in the practice of medicine who can see mother and child dying from hemorrhage, and not get a little panicky. When I was a resident physician in the Louisville City Hospital, nearly forty years ago, I saw a college professor deliver a young woman in a private room at the hospital, and the delivery was followed by a post partum hemorrhage. The professor gave an intra uterine injection of a solution of persulphate of iron, and though the hemorrhage ceased promptly, and the patient had not lost enough blood to kill her, a thrombus or something of that kind killed her very promptly. I merely mention this to show how blood will excite people of ability and experience, for so far as I have seen that treatment was never good treatment for post partum hemorrhage.

Every man who practices obstetrics should have his mind well made up on what course he is going to pursue if he meets with this condition, as he has but little time to consider it, if the case is a bad one, and the labor is on when he gets there. Manage to save all the blood possible, DeLee says "The loss of a pint of blood will kill some women, while others can stand to lose three quarts."

The following case will show what can be done in an emergency. Mrs. A. called me to attend her in labor, and as I walked into



the room she said "Hurry doctor I am flooding, and have been for some time." I cleansed my hands as quickly as possible, and when my fingers reached the vulva I could feel the blood running over them in a stream, and there was a large collection of blood lying on the sheet. She was a very delicate woman weighing less than one hundred pounds, with a chronic cough. She afterward died of phthisis. I told the family to get another doctor as quickly as possible, and told the expectant mother that she was in a dangerous condition, that her life depended on what I did for her in the next few minutes, that I was going to give her pain, but as her life was at stake she must be still, regardless of the pain. The os was about the size of a silver dollar. I passed my hand, not two fingers, into the vagina, and dilated the os with my hand as rapidly as it would bear with safety. Getting my hand into the uterus, passing by the head I grasped both feet turned and delivered. As the child was small and the woman many times a mother I did not believe there was much danger in a tear of the os, so I was not very long in delivering her. The boy delivered at that time is now a junior in Vanderbilt University. There was no post partum hemorrhage in this case. This woman did not move during the delivery. It must have given her great pain, but she bore it with only a moan. Certainly this may not be done in primiparas, and in some others, but the more rigid os the better chance for packing, and transportation to a hospital if one is in reach, and this is the class that the de Ribes bag comes in well in the home, if it can be procured, or Caesarian section in the hospital. I have known quite a number of cases of placenta praevia where the doctor waited for help or depended on imperfect packing, and most of them have been lost. If the labor is not on but only a small amount of hemorrhage time may be taken to get ready, but where the labor has begun, and the hemorrhage is severe especially if the expectant mother is a multipara, and she usually is, do not temporize by separating the placenta or packing, or waiting for help, but go up there with your hand if possible and turn and bring down the child far enough to compress the placenta against the uterine wall, and then leave it there to be delivered by uterine pains if you like, but here is one place I believe some improvement can be made, and more babies saved. After the child is delivered by uterine contraction as far as it is safe to risk the life of the child, then I think the doctor should take up active delivery, and I be-

lieve this can be done without adding to the danger of the life of the mother.

After the body of the child is brought down in the canal to act as a tampon, do not take it for granted that there is no further danger, for I know of one case, where a doctor who was also a professor of obstetrics in one of the leading post graduate medical schools in this country, who left a case of this kind in the hands of one of the interns while he went to another part of the hospital, and when he returned the woman was dead. The autopsy showed that the hemorrhage had continued internally.

The work done by Potter has materially improved the technic in version, and his book on Version should be read by every man who practices obstetrics. Whether you believe with him or not he certainly teaches some things that are worth knowing. He advises against the combined or Braxton-Hicks method of version, saying that it is responsible for pulling up the arms by the side of the head and materially increasing the difficulties of delivering the after coming head. He delivers the anterior shoulder first, then rotates the other shoulder to the front and delivers that. He has some wonderful figures to offer in his success with version.

For post partum hemorrhage most writers recommend gauze pack when it is severe, but in the home an efficient packing is very improbable. All the ordinary remedies can be used, such as pituitrin, ergot, position, and pressure, but the most satisfactory remedy which is nearly always available is hot iodine water injections with the hand and the sterilized tube tip of syringe introduced up into the uterus. It should be very hot. I have not failed with it yet. So much for the handling of this lonesome job in the home.

Where it is practical all these cases should be in a hospital in the hands of an expert. There you can get nurses, all the medical help you need, de Ribes bag, intravenous saline, Caesarian section, caffeine, and anything you need, but in the country alone you must use a good head, and a strong arm.

Before ending I want to say that I believe there is much to be expected from Caesarian section in good hands in a good hospital. The death rate for babies is much lower in Caesarian section than in placenta praevia, and for mothers at least as good as in placenta praevia, delivered by the vagina. I am favorable to Caesarian section that goes through the peritoneum. I have only seen the extra peritoneal Caesarian operation done in Westheims Clinic in Vienna, but I saw no advantage over the ordinary operation, and the other is quicker and better for the ordinary

man. The wound is larger in the extra uterine than in the other, it is harder to do, and in the hands of the average man, slower. The only advantage is you do not get into the peritoneal cavity in one, but you do in the other, but the surgeon tells us that risk is very small, so why take the longer route? An important question that arises in these cases is when is it safe to transport them to a hospital, and when is it better to do it at home. This is a question of judgment. If the labor is on and the hemorrhage severe, unless the hospital is close and time needed to transport is very short, I should say deliver in the home for I have but little confidence in the packing of the vagina of a multipara by the average man, for personally I have found it hard to do. I have thought many times of the ordeal that I barely missed in Mrs. S's case, when she was taken in labor, and died before she could be put on the train to be removed to Louisville. In a primipara packing is more servicable.

The points in a case of placenta praevia in the home I am inclined to stress are these: Lose as little time as practical after the diagnosis is made, lose as little blood as possible, transport to a good hospital if it can be done in reasonable time, and reasonable time is to be left to the judgment of the doctor in each case. If labor is on when you reach the patient, and she is losing blood in considerable quantity do not wait for help, nor if urgent for anaesthetic, explain to your patient her danger and tell her how important it is, and undertake to bring down the leg. If the case is a multipara it will be easier to bring down a leg than if it a primipara, and it might be necessary to pack. In a primipara I would expect to have to use a bag or better Caesarian section if circumstances were favorable. If you can insert the whole hand with reasonable effort use that and not the Braxton-Hicks method. If you can get an anaesthetic of course use it. After the hemorrhage is controlled by bringing down the legs, leave to nature the delivery until it is near enough delivered to endanger its life, then use all effort that is safe to deliver the child while it is alive. Adopt the plan so highly advocated by Potter, keep the hand flat on the child's breast, and in this way you can feel the heart beat, and know how the child is progressing. It is not my opinion that there is as much danger of a tear of the cervix as most writers indicate. The post partum hemorrhages I have seen did not come from cervical tears, but came from failure of the uterus to contract. Certainly a tear can be made, but cautious efforts at delivery as soon as the life of the child is

endangered are not only permissible but in my opinion, are proper. Some of the teachers almost advocate the doctrine of "ignore the child," and give as their chief reason for it that these children are usually weaklings, and will not survive if they are born alive. Post partum hemorrhage needs everything you have at command when it is bad, but I have gotten the best results from hot iodine water, with the hand in the uterus with the tip of the syringe up to the fundus. I do not believe there is any more danger from putting the entire hand into the uterus than there is putting in two fingers. Before you get the placenta removed and the blood stopped you are almost certain to put the entire hand into the uterus any way.

Since writing the above I have seen another case of placenta praevia in consultation. The child was dead when delivered, time about thirty-two weeks. The mother recovered without incident, she had two hemorrhages, one on day of labor, and one twenty-four hours before. The only thing out of the ordinary was the child's hand was prolapsed by the side of the head, and we delivered with forceps as the child was small, and it was impossible to return the hand. The blade was slipped in between the head and the arm, and delivery was fairly easy. I saw it in consultation. These are my conclusions regarding the treatment of this condition. While the rules are fairly well fixed as to the treatment of placenta praevia, there is plenty of room for the exercise of good judgment. I am sure that some of the tensest minutes in my professional life have been spent with these seven cases, while coming to these conclusions.

#### DISCUSSION.

**E. J. Brown, Stanford:** The essayist has certainly presented to us a paper that is worth consideration. He has pictured to us one of the sad scenes in a practitioner's life. That doesn't apply so well to the institutional treatment as it does to the country doctor. It is a calamity to see the figures related of mortality in pregnancy and parturition in the United States when we boast so much of standing so high in the profession in all of its parts.

It was no longer ago than yesterday that I saw one of the best mothers, wives, that I have ever known, pass into eternity from a miscarriage complicating the fifth week of typhoid fever. Those are the things that arouse us and make us think. Can there be something done? We were helpless; we did all we could, and yet that organically diseased heart, that disturbed stomach from the beginning of typhoid fever which kept the patient from taking the proper



nourishment, placed us in a position where we couldn't save her.

We would first deal with placenta praevia in stages and in type. We would first speak of the central presentation of the placenta and we would also speak of the marginal presentation. These two conditions would probably be dealt with entirely in a different way and in institutional treatment in a different manner. If the patient is in the country and the bleeding is perservering and apparently is dangerous, I believe that delivery is the thing, but if it is institutional treatment or where you can have the patient under your observation, I believe we should wait, if not too much bleeding, if the time has not yet arrived, until the child is viable.

There is just as much importance attached to preparing a woman for placenta praevia delivery as in any other surgical hemorrhage because of the fact that the woman should be treated by rest, and should be treated by proper nourishment. Of course the kidneys and the blood pressure and those things have been looked after. It is understood that we all do that, and at the same time she should have lactate of calcium or something of that kind to prepare her blood so she will not bleed as freely as she would under other circumstances, so when the hour comes, when the ordeal arrives, she will be in the best possible condition so far as bleeding is concerned. We must consider the unborn child has rights as well as the mother.

Some will advocate doing a manual dilation of the os, mechanical dilation of the os. I believe if the case is not too urgent and the bleeding too great, we would take another view of it and from another side, for this reason: I don't believe a rapid dilation of the os and the parts gives you the security that you have if you go ahead and open the os before the parts are crowded down into the pelvis. I believe the proper thing is to get a thorough presentation, let it mold itself, whatever that presentation is, into the lower segment of the uterus before you attempt to deliver at all, unless the case is urgent and demands immediate action. After engagement I believe in seizing the presenting part and doing a rapid delivery. If not engaged do the safer thing, Caesarian section. I think that is the only safe thing to do, and I doubt very much that there is a place in placenta praevia where you can say that manual dilatation is absolutely the safest for mother and child. You can deliver it after it does get down, after it gets thoroughly adjusted into the lower segment of the uterus, but not before that time.

The speaker spoke also of Caesarian section. I have never done a Caesarian section, that is an abdominal Cesarean section, but a vaginal Cesarean section for the same condition. For-

tunately, of course, the child was not viable. It was a case complicated by fibroid. We lost the child but the mother lived and did very well.

Cesarean section used to be considered a very reckless procedure in placenta praevia, but in modern times in institutional treatment it is not considered so.

I was fortunate enough to witness the third cesarean abdominal section ever done for placenta praevia. Dr. John B. Deaver, of Philadelphia, in the early nineties did an abdominal cesarean section for placenta praevia centralis. For fear he would be criticized he called up one or two doctors for advice. I was in the hospital at the time under one of the leading abdominal surgeons of the world when he called him up and asked him if it was advisable and if he would be considered reckless in doing an abdominal section to relieve the case. This surgeon told him no, to go ahead, that he was perfectly justified. I witnessed that operation, which was the third one that had ever been done for placenta praevia. We can be reckless or conservative, too slow or too fast.

These are cases where there are two lives hanging in the balance. As the essayist has well said, if a man ever felt handicapped, if he ever felt outdone in all his life, it is when that question presents itself as to what he shall do. Shall he proceed and take a chance? Shall he wait and take a chance? At last when it is all said and done, when you do one you sometimes wish you had done the other.

In conclusion let us say that in surgical hands the abdominal route is safer for both mother and child than rapid dilation when fetus is not engaged. Good judgment will bridge many cases over to maturity of child and safety to mother. Every woman should be impressed there are two times in her life she should consult her physician regarding flow from uterus, during pregnancy and after menopause.

**J. G. Sherrill, Louisville:** Dr. Stevens has written an article that is a masterpiece in obstetrics. I think the reason the United States has a higher mortality in deliveries of women lies in the fact that the distances are great, the women in many instances are away from the doctor and the doctor away from them. I believe mortality in labor is probably as low here as in any other country. We must remember in small countries like Denmark that have had medical education for many years, the people live in close vicinities where the patients are brought promptly under the care of the attending physician, therefore the mortality in delivery is very small.

The point of interest in these cases, as brought out by Dr. Stevens, is that they are all grave, some are more grave than others. If they are conveniently located to a properly equipped and

manned hospital, that is the place for them. In the properly equipped and manned hospital if there is an obstetrician who can deliver a woman safely and quickly and have a live child by the normal route, that is the method of choice. If that is not the case, there is nothing simpler, easier or safer in abdominal surgery than the delivery of the centrally implanted placenta praevia by the cesarean route, and that means by abdominal method. It can be done in a minute and three-quarters by a competent surgeon, the baby is out and taken care of, the hemorrhage is stopped, the uterus is cleaned out without any possibility of infection provided that there has been no tampering before you arrive at the case. With a clean uterus you have no after trouble, no after hemorrhage, and your suturing is made, your operation is completed in thirty minutes, and your patient is well in ten days. Many women who have gone through the operation of cesarean section have stated to me that they preferred that to the usual method of delivery, they thought it was easier.

Remember, gentlemen, that this operation carries with it an abdominal incision and abdominal scar, and that it to be avoided in those cases where the child is small, where the danger of hemorrhage is slight and the obstetrician is skillful enough to bring the living child.

When we lose fifty per cent of infants by delivering through the vagina, something is wrong. You could deliver one hundred per cent living children and you could deliver one hundred per cent living women if you delivered by the abdominal route. You can't do it with the patient thirty or forty miles away from the physician. In some counties in this state, unfortunately, we have no doctors within some of the towns.

**E. A. Stevens (in closing):** Dr. Sherrill has given so thoroughly my feeling about the matter so far as institutional treatment is concerned that it is hardly necessary for me to mention it. I didn't attempt to handle institutional treatment, but if I had handled it, in some sort of way I would have gotten the idea to you that Dr. Sherrill did.

There is one thing that he said that makes me take the position that I did, that all of these cases are grave. There is no other kind of placenta praevia, that is if they are not in dangerous condition now they are liable to be before you get through with them. That is the reason I advocate doing something. If I had these cases in a hospital where they had not been tampered with, where no damage has been done, where no infection was there, I should say Cesarean section should be done much oftener than it is done now, but in the home if there is anything in the world that tries men it is bad placenta praevia, and it doesn't make so

much difference so far as I am concerned whether there is a marginalis, partialis or centralis, if they are bleeding like the mischief. That is the thing that bothers me, and I insist that there is no time for foolishness, there is no time to lose. One minute may kill your patient because she may have lost a lot of blood. There is no time to prepare the blood with calcium. That is like throwing in at the window and out at the door. A few minutes can take more blood out of there and more calcium out of there than you can put in there in thirty days, so why wait?

### CONSIDERATION OF SO-CALLED PRIMARY ANEMIAS.\*

By L. K. BALDAUF, Louisville.

The classification of anemias into primary and secondary is helpful in that it differentiates anemias for which no adequate cause may be assigned from those where the cause assigned seems sufficient.

A classification of this sort is purely clinical, for as our knowledge of disease increases the number of secondary anemias increase and many anemias formerly considered primary with the etiology now determined, fall into the secondary group.

The object of this paper is to emphasize the increasing number of secondary anemias and to stress the importance of syphilis in the production of these anemias, to show that many anemias formerly considered primary are secondary to syphilis and can be cured if subjected to rigid anti-syphilitic treatment.

Of the primary anemias, probably the most common and therefore the most important is primary pernicious anemia. Its etiology is unknown, although the accumulated evidence seems to point to a gastro-intestinal origin. Pathological changes in these tissues have been described and are generally present but the lesions which have been noted emphasize the progress of the disease and throw little light on the cause.

In making a differential diagnosis other diseases with a similar blood picture must be considered. The text books contain numerous differences in signs and symptoms caused by intestinal parasites and carcinoma of the stomach. In many instances the blood picture is essentially the same and the differentiation must rest on other laboratory and clinical findings. In carcinoma of the stomach, there is a greater tendency to an increase in the leucocytes especially the

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.



polymorphonuclear neutrophiles, there are fewer nucleated reds and those present are normoblasts as a rule, while with intestinal parasites, especially with *uncinaria*, an increase in eosinophiles is most likely. In bothrocephalus anemia all the degeneration and other signs of a primary anemia, the poikilocytes, microcytes, macrocytes, polychromatophilia may be present. There may be numerous megaloblasts but in a few weeks after the expulsion of the parasite, the blood may return to normal. So with syphilis, this may simulate the most severe type of pernicious anemia, the count falling below 500,000. In hereditary and tertiary lues, the red cells are seriously affected in size, color, and number. The blood picture in long standing cases with scarring of the bone marrow may resemble primary pernicious anemia, but here as in cancer of the stomach the megaloblasts do not predominate as they do in pernicious anemia. The blood picture typical of pernicious anemia may be briefly described.

The red blood cell: Dependent upon the severity of the disease, the red blood cells may be enormously reduced, the cell count may fall below a million. Indeed it is remarkable with what apparent comfort a patient may move around with a count as low as 500,000.

During remissions the cell count may reach as high as 3 or 4,000,000, but it rarely returns to normal. There may be marked changes in the shape and size of the cell—a poikilocytosis and an anisocytosis. There may be a stippling of the cells, a polychromatophilia. There may be numerous nucleated reds, microblasts, normoblasts, and megaloblasts. The presence or absence of these cells may indicate the condition of the bone marrow whether the type of anemia is aplastic or hyperplastic, apalastic when the cells of the marrow are not stimulated but destroyed, hyperplastic where the cellular elements are greatly increased. In the hyperplastic type, frequently the nucleated cells appear in great numbers, the so called nucleated red-showers. The blood platelets are greatly reduced.

The haemoglobin ordinarily is much reduced but the percentage reduction is not in the same proportion as the red cell destruction. The color index is generally high one or over.

The white cell count. This is generally reduced. The number may fall well below a thousand. Frequently the leucocyte count is an index of immediate prognosis. A very low count is always indicative of severe anemia. Frequently with the improvement

in the red cell count and haemoglobin, the leucocyte count is also increased. As to the differential there is a relative and absolute decrease in the polymorphonuclear neutrophiles, the lymphocytes showing a relative increase. Briefly then typical primary pernicious anemia is characterized by this blood picture, a reduction in red cells, and haemoglobin, the reduction dependent on the severity of the disease; a high color index; a leucopenia; a relative lymphocytosis; a reduction in blood platelets, nucleated reds principally megaloblasts, a polychromatophilia; a poikilocytosis. Salvarsan was selected for its arsenic content and for its proven intravenous value. At first the good results were attributed to arsenic but now we believe there are other factors. The likelihood is that many of these cases were syphilitic in origin. Within the past few years I have had four cases with typical symptoms and with a typical blood picture of pernicious anemia, where the blood serum showed a 4 plus Wasserman. These were cases undoubtedly of syphilitic anemia. One patient has completely recovered as far as the blood picture is concerned and the other three I feel will fare as well.

It is a well known experience where routine Wassermans are made that most cases of pernicious anemia run a one or two plus Wasserman. The frequency with which these weak are obtained has caused some observers to believe that all cases of so-called Addisons anemia are syphilitic in origin. This view is probably too radical but until now the weak Wassermans remain unexplained. These seems to be sufficient evidence to warrant a trial treatment of a few weeks at least of all cases of anemia supposedly pernicious with mercury and iodide. Certainly a Wasserman should be made on all cases and if a four plus Wasserman is obtained anti-syphilitic treatment should be thoroughly followed.

Primary pernicious anemia, transfusions and splenectomies to the contrary are generally fatal. No line of treatment so far has resulted in a cure. A few of these cases supposedly primary are now known to be syphilitic in origin. These cases can be cured. It is our duty to find out which of these cases are luetic and then to apply treatment so that these few patients be saved.

#### DISCUSSION.

J. G. Carpenter, Stanford: Way back yonder when I was a kid practicing medicine, but having seen so much syphilis in Louisville, and on Blackwell's Island at New York City, I got the clue to syphilis infection in these ane-

mias. One patient 40 years old has laryngeal ulcer ophonia, with cough expectoration, anemia, high temperature thought to be tubercular. I put the patient on mercury and iodide of potash and he improved by leaps and bounds. The ulceration quickly healed; his night sweats stopped; his voice regained strength from time to time, and he improved rapidly. Expectoration subsided, and in six months all those symptoms subsided and he had become a strong, robust man. Yet it seemed at first examination to be tuberculosis.

I would say to the doctors that have been on the ocean that it is a good thing to have a crow's nest in the practice, to act the part of a sailor and get high up where you can see from all standpoints and see the submarines and the floats on the ocean of life in the practice of medicine, and look for every point that bears on the life, happiness and destiny of the patient, and your life will be more crowned with success than otherwise, and much more reputation and dollars in your trousers, by knowing how to diagnose and treat these patients; keeping them at home. The general practitioner and surgeon of necessity are both internists and extremists, and are able to see and know so much more than the "limited specialist," or "faddest" and should be able to practice and get better results than they.

**J. D. Allen, Louisville:** I know of no condition which will produce an anemia which more closely simulates pernicious anemia than syphilis. I saw three cases last year which suggested pernicious anemia, all three cases showed a four plus Wassermann and at once were put on anti-syphilitic treatment and were immediately made to respond.

It has been my observation that the point of differential diagnosis or the point worth most in differential diagnosis between pernicious anemia and secondary anemia is the complete absence of hydrochloric acid in the pernicious anemias. I have seen some wonderful results (of course, temporary results) from the administration of thirty drops of dilute hydrochloric acid three times a day.

**W. F. Boggess, Louisville:** I think, as Dr. Baldauf says, our classification of pernicious anemia is rapidly lessening and that every case of true pernicious anemia dies irrespective of what you do. I have tried transfusions, I have tried everything and they all die. It is astonishing how long a patient will live with 250,000 reds per cubic centimeter. I had one patient that lived two months that showed no more than 250,000 reds. I had an aunt who died, and for a week before she died she showed 150,000 reds.

An interesting case came in of a doctor friend of mine down state, profoundly anemic. I had a blood count made; he showed 3,000,000 reds, color index one per cent, 3,000 whites. I said, "Doctor, this looks like pernicious anemia. Let's have a Wassermann made." It could only be one other thing; we had a Wassermann made which was four plus. The picture of your syphilitic anemias is identical, in many cases, with the picture of true pernicious anemia—low reds, high color index, low leukocytic count, and I believe that just in the last few years, as Dr. Baldauf has said, that many of our pernicious anemias are either inherited or contracted syphilis, and I think in every case of pernicious anemia (and we are seeing lots of them, more than ever before) not one Wassermann but several Wassermans should be made to determine whether or not we are dealing with a true pernicious anemia or with a leukocytic anemia. A true pernicious anemia will die no matter what you do. In the syphilitic anemia, practically all of them will get well.

**L. K. Baldauf, (Closling):** Dr. Allen has called attention to the use of hydrochloric acid in these cases of pernicious anemia. The interesting feature is that in many of the very severe anemias, not only pernicious anemias, but in many of the very severe anemias, there is an absence of free hydrochloric acid in the stomach content. There seems to be an atrophy of the mucosa in the stomach.

There is a rather interesting feature connected with these cases, and that is that where there is a decided absence of hydrochloric acid they have a very severe diarrhea. These patients, when put on a dilute hydrochloric acid, twenty or thirty drops three or four times a day, have this diarrhea corrected in a very short time.

Just as a little side play we made use of this hydrochloric acid in diarrhea, in some other cases. We had some cases of gastroenterostomy where the stomach seemed to empty too rapidly, and we figured the reason these patients had diarrhea was because of too little hydrochloric acid mixed up with the stomach content, and these patients, when given hydrochloric acid, corrected the diarrhea.

As Dr. Boggess has said, there has probably been no disease on which more work has been done than primary pernicious anemia. We don't know the cause. There are a number of theories advocated, and the results, as far as all lines of treatment go, are very unsatisfactory. We read in the newspapers every now and then about this man or that man giving up his blood in transfusion, but that is a lot of newspaper talk. I think transfusions in pernicious anemia are decidedly contraindicated. I never have seen it do any good, and I believe it has even a fatal outcome.



The point of the matter in pernicious anemia is this: We have got a disease where there is a certain poison elaborated. This poison which is elaborated is destroying the red blood cells. When a red blood cell is destroyed it is poison because it is foreign substance. If you go ahead and inject into the patient a pint or a pint and a half of blood, what is going to become of this blood? This blood is going to be destroyed, unless you determine the cause of that anemia and remove the cause, this same blood that you are putting into the circulation is going to be destroyed, and if you have got that much more blood which is being destroyed you have got that much more poison in the circulation, and naturally with the increased amount of toxin the patient is not going to do as well. How many of these patients after transfusion run a high temperature? Of course, following any transfusion you are liable to get a temperature, but how many of these run a high temperature following a transfusion? Until we know what the cause of primary pernicious anemia is, I don't believe we will get much further than we are now.

#### FATAL CASE OF MELENA NEONATORUM.\*

By BEN CARLOS FRAZIER, Louisville.

On February 14 1923, after ten or twelve hours labor, I delivered a primipara 31 years of age, in good condition. I had not seen the patient until one month prior to delivery. The baby was a female and one of the prettiest and nicest shaped that I have even seen. It was bright and seemed to have some expression at once. The nurses at the Norton Infirmary were impressed with her good looks.

The day following delivery the baby nursed well and seemed normal in every respect. On the third day the nurse telephoned for me, stating that the baby had a hemorrhage from the rectum. Examination disclosed some slight bleeding, and as I did not know exactly what to do for the child some coagulose was administered. The baby nursed that day very well, but late in the evening there was hemorrhage from the vagina. A few hours afterward she vomited blood. Death occurred two days later. The child was able to nurse, however, until within a few hours of its death.

This woman gave the history of having been perfectly well all her life. She was from another city and very little family history was obtained. She was the second wife

of her husband and this was her first child. There had been two miscarriages during the last four or five years. Her husband's children by his former wife were all well and healthy.

I have no explanation to make as to the cause of death, and if anyone present has I would be glad to hear it.

#### DISCUSSION.

**Morris Flexner:** Dr. Frazier's case, in my opinion, was one of melena neonatorum. The transfusion of whole (human) blood in cases of this disease will often save the child's life.

The pathology is obscure, but recently considerable work has been done on the hemorrhagic diseases of the newborn, particularly by the Minneapolis school, and they have gone so far as to recommend that the coagulation time and bleeding time be tested in every newborn child. They give as their reason that many babies have prolonged coagulation time and bleeding time which is not discovered until twenty-four to forty-eight hours after birth, that all of these children have oozing underneath the skull for that length of time, long enough to produce changes which will develop into true Little's disease if not discovered. They advise transfusion of whole blood and state that in this way the lives of many children can be saved.

**Effect of Large Doses.. of Arsphenamin on Blood Coagulability.**—Oliver and Douglas did not find any evidence indicating marked action of arsphenamin on thrombin or its precursors. They did find, however, a marked change in the properties of the fibrinogen and other globulins of the arsphenamin plasma, rendering them incoagulable to heat or thrombin. No action could be demonstrated. The practical importance of the effect of arsphenamin on the coagulability of the blood is not very evident at the present time. In its therapeutic use, the concentration needed to produce definite changes is never reached. The experiments detailed indicate only that there is some reaction between the arsphenamin and the globulins which renders them incoagulable to thrombin and heat, and that they are not "destroyed" as they may be recovered by precipitation by carbon dioxide.

**Influence of Sleep on the Motility of the Stomach.**—Danielopolu and Carniol found in three patients with stenosis of the pylorus a complete or almost inhibition of movements of the stomach during sleep. When the patients were awakened the gastric contractions started and increased progressively to the usual strength.

\*Clinical report before the Louisville Medico-Chirurgical Society.

## THYROIDECTOMY UNDER LOCAL ANESTHESIA: CASE REPORT\*

BY L. WALLACE FRANK, Louisville.

One reason for reporting the following case and exhibiting the photographs of the specimen, is that the essay tonight is on the subject of saeral anesthesia, which is one of the forms of local or regional anesthesia, and this operation was performed under local anesthesia because of the condition of the patient.

Mrs. B. W., aged forty-nine years, came to see us in April, 1923, complaining of nervousness. Family history: mother died of goitre at the age of forty-nine; nothing further of interest. Past history negative except for typhoid fever at age of thirty-seven.

While the patient consulted us because of nervousness, she incidentally stated that she had a goitre which was first noticed twenty-six years ago. She said it had never bothered her very much and was apparently getting smaller. About three months previously she became very nervous and had some palpitation of the heart, she also had some shortness of breath which had practically disappeared. There was no edema of the feet or ankles, but her nervousness was increasing. Her temperature was normal. There was slight difficulty in deglutition and after meals she complained of pain in the upper abdomen. Says she has indigestion for a long time. Intestinal functions normal. During the last three months she had lost thirty-five pounds in weight. Menstrual history negative.

Physical examination: The patient is a pale, emaciated woman, very nervous, weighing about one hundred and thirteen pounds. Pulse 150 per minute. Blood pressure, systolic 170, diastolic 70 mm. Hg. There was some exophthalmos, decided staring expression, slight Von Graefe sign. The right lobe of the thyroid was enlarged, hard, nodular, and extended into the supra-sternal notch. The left lobe was apparently not enlarged. The heart was normal in size, action rapid, fairly good muscular tone, regular, and there were no murmurs. The lungs were negative. Marked tremor in extended fingers; some sweating.

The diagnosis of toxic adenoma of the thyroid was made and operation advised which

was refused. She returned to her family physician in an adjacent city who prescribed rest and digitalis. She remained in bed two or three days and then insisted upon being allowed to be about the house. At various times she would be in bed for a day or two. The rest treatment was therefore a failure and she continued losing weight.

Shortly before we last saw her she had been confined to bed for several weeks and emaciation had progressed until she was literally nothing but "skin and bones," and during this time her pulse ranged between 160 and 180. She was decidedly opposed to entering a hospital for treatment, and in October, 1923, we told her that we would perform the litigation operation at her home. However, her physician said this was probably a joke on my part and as a result nothing was done. About a month later her condition became so serious that she sent for me, she was confined to bed at that time, and after considerable persuasion decided she would go to the hospital. Her pulse had become very irregular, and intermittent, although she had then been confined to bed for two weeks and had been given large doses of digitalis.

The patient was sent to the hospital one night and operated upon the following morning under local anesthesia, one half per cent novocaine, — the infiltration method being used. The operation was completed without difficulty and the patient complained of no pain. The preliminary hypodermic of morphine caused some gastric disturbance and she vomited once or twice during the operation, but the field was well protected and there was no soiling of the operation area. She said she felt slight pain when the first sutures were passed through the skin in closing the wound the effect of the novocaine having been dissipated in that area. Operation disclosed large, multiple adenomata of the right lobe. They are well illustrated by the photograph which is exhibited.

The day following the operation the pulse had receded to 112, the second day it was 90, and on the fourth day it was 72. She was dismissed from the hospital the sixth day. Ten days later she wrote that she was doing all her housework and was absolutely well.

This case is reported to show what can be done under local anesthesia. Personally I much prefer to have gas administered in addition to local anesthesia, but here was a case where it was absolutely out of the question to give any type of inhalation anesthesia. By using local anesthesia the patient was successfully operated upon and restored to health.

\*Read before the Louisville Medico-Chirurgical Society.



## FORUM

Milton Board  
Revenue Agent for the State at large.  
B. W. Gilfillan, Attorney

Phone City 7497

## STATE OF KENTUCKY

REVENUE AND TAXATION

COURT HOUSE

LOUISVILLE, KY.

TO THE MEDICAL PROFESSION OF  
KENTUCKY.

During my somewhat prolonged political life I have been in the habit of taking either victory or defeat as fortunes of war and going ahead making preparations for the next fight, but the editorial which appears in the April number of the *KENTUCKY MEDICAL JOURNAL* entitled, "Mutual Congratulations," is not only personally offensive to me, but so unfair to the Medical Profession as well that I am constrained to break my life rule of silence after victory or defeat and present the other side of this case. I claim the right to do this through the columns of the *KENTUCKY MEDICAL JOURNAL* as a stockholder in same by virtue of membership in the State Medical Society.

I will try and be as brief as possible and I will not be ambiguous.

My life has been largely a political one, whether it has been wise from a professional standpoint or not, the fact remains. Twenty one of the thirty one years since I graduated in medicine have been spent on some kind of pay roll. For more than twenty years I have spent much of my time at the State Capitol during the sessions of the General Assembly. It was here that I became, many years ago, intimately associated with the elder McCormack; I had great affection for him; he had for me; I served him faithfully for many years; he served me just as loyally as I did him; I need only refer the readers of the *JOURNAL* to editorial comments commending my work for the State Board of Health and the State Medical Society at Frankfort which appeared from year to year, especially after the adjournment of each General Assembly. So long as I served the McCormacks I was, in their opinion, most efficient, when I quit I at once became a "selfish politician."

All through the editorial entitled "Mutual Congratulations" the word "They" appears; since I was the much heralded and well known author of House Bill 35 it is obvious

who the "They" is, though the editorial in true keeping with the character of the editor lacks the candor to mention my name.

I wrote and caused to be introduced House Bill 35 and its companion, Senate Bill 122. For more than a year the Secretary of the State Board of Health had, through constant propaganda, sold to the Medical Profession of the State the idea that I was seeking to disrupt the State Board of Health for political and personal motives. My record gave this the lie. McCormack knew and now knows better than any other man in Kentucky that my whole mental trend is in opposition to political control of health bodies or of boards that relate to charitable institutions. So far as the latter is concerned I believe I can say with becoming modesty that I am a pioneer in Kentucky in the effort to take the charitable institutions out of party politics. I have always believed, and yet believe that political control of such bodies is fundamentally wrong, and that they are a political liability instead of an asset.

McCormack knows that I broke with the Stanley administration and resigned my position as Medical Director of the Compensation Board by reason of the passage of the so-called Heizer bill in 1918, and if he would be as fair to me now as he has been in the past he would give me my share of the credit for the successful termination of that litigation.

Notwithstanding this record, all over Kentucky before medical societies and different clubs this propaganda was spread that I was seeking to destroy the health laws of Kentucky. House Bill 35 did nothing of the kind; it provided for the appointment of four regular physicians on the Health Board, one Osteopath, one Homeopath, one Eclectic, and one Druggist; it made the Governor of the Commonwealth the Ex-officio Chairman of the Board and it provided that the Secretary should be the paid servant and not the controller of the Board; it put the law back where it stood up to eighteen years ago and made it conform to that of forty five states in the Union today where the appointment of the Board or the Secretary is vested in the Governor of the Commonwealth.

I caused to be introduced House Bill 35 for two reasons, first, because I am fundamentally opposed to the principles of the present law; it is obviously self-perpetuating. The inter-locking of the State Medical Society and the State Board of Health is hurtful to both; nobody profits by it except McCormack.

For twenty years to my personal knowledge the leaders of the Medical Profession in

every county in Kentucky have been summoned to Frankfort to meet a so-called "crisis." That crisis was to save McCormack's scalp, and the Profession has merely been exploited for that purpose. We have derived no profit as a Profession.

Years ago the elder McCormack compromised with the Osteopaths and saved his job. In 1920 A. T. McCormack compromised with the Chiropractors, who have since flooded the State, to save his job. In 1922 the Chiropractors passed their bill through the House,

I was summoned to Frankfort by the President of the Jefferson County Medical Society, Dr. Charles Farmer, for the purpose of aiding in the killing of this bill. Again this year the Chiropractors passed their bill through the House, McCormack was not present when the bill passed. I saw no evidence of propaganda on his part to prevent it; it came to a vote in the Senate and was killed there, and yet this ingrate who well knows the part I played in killing the Chiropractor's bill two years ago, would, by the use of the word "They," make it appear that I appeared before the Committee on Public Health in favor of the Chiropractors.

Again in this editorial appears the statement that the artificial, professional, and political strength of "They" has always been destroyed when the spot light of publicity is concentrated upon it.

My friends, think of it; this bird talking about the spot light of publicity. If the spot light of publicity is ever turned on A. T. McCormack he will not stop running this side of Honolulu; he will take his cap in his hand and never look back.

What opposition, may I ask, have the Chiropractors really received from the State Board of Health, that are flooding the State with, and without license. They are invading every part of Kentucky. A few prosecutions have been started; do you know of any convictions? Do you know of any appeals to the higher courts? Do you know of any real effort upon the part of the Secretary of the State Medical Society or secretary of the State Board of Health to rid Kentucky of these people? I do not and you do not, and the reason is obvious. It will cost McCormack some votes in the General Assembly.

It has been the McCormack boast that they have rid the State of charlatans. Is this true? Look around you and see them winking at this irregular here and that quack over yonder and determine for yourself whether or not this boast is true.

The inter-locking of the State Board of Health and the State Medical Society has

brought politics into both and has made of the latter a mere tool in the hands of McCormack when it should be a scientific body. It has divided the Profession in every county in Kentucky; those who are on the McCormack side are militant; those who are opposed to him are sullen and silent, but their name is legion.

House Bill 35 was introduced in the early part of the General Assembly because I knew as a practical man that that was the time to pass it. It was referred to the Committee on which were two doctors and it received a unanimous favorable report of that Committee. McCormack did not appear before that Committee and he did not ask to appear; he preferred to try his case in the newspapers and through propaganda of his own choosing. Had the bill been brought to a vote in the early part of the session it would have passed the House by a very large majority. No one knows this better than McCormack. It was recommitted because the Administration had more important measures to consider at that time.

In the meantime the Anti-Administration Democrats lead by Mr. Percy Haly and all of the Republicans in the House except four under the influence of former Governor Morrow, joined forces with the little group of McCormack men and killed the bill. That was all there was to it. If such coalition can be formed in the future the same result will obtain. If McCormack has to stand on his own merits he will not muster one fifth of the membership of either House.

When Jonah was told to go down and preach the Gospel to a dying Ninevah he ran away and thought to hide himself in a ship, but a great storm came and rocked the boat and they cast lots to see who was the cause of that storm and the "lot fell on Jonah," and they threw him overboard.

So it is my friends with the Medical Profession of Kentucky. If you want to really make progress, if you want to keep your organization from being exploited, if you want to keep Kentucky from eventually becoming the dumping ground of charlatans and poorly educated subsidized practitioners you will have to get rid of McCormack; you will have to separate your Medical organization from the State Board of Health. Let the state government run the latter, which is its function, and the Medical Profession conduct the former.

Milton Board.

Louisville, Kentucky,  
April 22, 1924.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00

PRINTED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

C. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. R. McCLEURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. McMURTRY .....Louisville

W. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

### FOURTH DISTRICT

C. Z. AED .....Cecilin

### FIFTH DISTRICT

C. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

R. C. McCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

F. A. STINE .....Newport

### NINTH DISTRICT

A. T. BRYSON .....Ashland

### TENTH DISTRICT

R. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

W. M. MARTIN .....Harlan

### SECRETARY-EDITOR.

ARTHUR T. McCORMACK .....Louisville

### BUSINESS EDITOR

L. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

H. A. COTTELL .....Louisville

J. K. FREEMAN .....Louisville

### ASSISTANT EDITORS

#### UROLOGY

OWSLEY GRANT .....Louisville

#### DERMATOLOGY

S. A. STEINBERG .....Louisville

#### GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

#### PEDIATRICS

D. F. BAEDOUR .....Louisville

#### OBSTETRICS

EDWARD SPEIDEL .....Louisville

L. C. REDMON .....Lexington

#### EYE

ADOLPH O. PRINGST .....Louisville

#### EAR, NOSE AND THROAT

O. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

R. H. COWLEY .....Berea

#### ANESTHETICS

W. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Boyd**--On March 27th the Boyd County Medical Society met at the Hotel Ventura. After a fine dinner Dr. C. K. Kereheval read a paper on "Disease of the Accessory Nasal Sinuses." There were twenty-three members present. This was the first of our dinner programs and it appears to be a very good plan.

On April 8, the society met at the Kings Daughters' Hospital. At this meeting F. L. Robbins read a paper entitled "Forty Years of Practice." After listening to this paper one could not help marveling at the great progress in medicine. A. J. Bryson read a paper on "Pre-Operative Preparation."

The next meeting will be held at the Hotel Ventura April 24, 1924, at 6:30 p. m. Papers by J. W. Stephenson and J. D. Williams.

LESLIE H. WINANS, Secretary.

**Franklin:** One of the most interesting, instructive and enjoyable meetings of the Franklin County Medical Society was held Monday May 12th, at Capital Hotel at noon.

The meeting was called to order by the president, C. T. Coleman. The following doctors were present — Drs. Jackson, Darnell, Demaree, Coblin, Mastin, Minih, Heilman, Budd, Patterson, Ginn, Taylor, Youmans and Roemele.

The society had as its guest Dr. Claud Hoffman, Councilor for 5th district and Dr. Enfield of Louisville and Dr. Hastings of Mercer County.

By vote, reading of minutes of previous meeting dispensed with. Censors reported favorably upon Dr. Youman's application for membership.

It was moved and seconded and voted unanimously to dispense with all business before society and turn the meeting over to Dr. Hoffman and Dr. Enfield.

Dr. Hoffman read a paper on Urology and showed a number of lantern slides illustrating and explaining methods of diagnosis.

Dr. Enfield gave a talk on Kidney X-Ray work also exhibiting pictures with full explanation of same.

So helpful were these talks and pictures to both the surgeon and the general practitioner that the society extended a vote of thanks to Dr. Hoffman and Dr. Enfield and hope to have the pleasure of having them with them again in the near future. A well appointed dinner was served and enjoyed. Adjourned until second Monday in June.

F. W. MARTIN,  
Secretary.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



---

# **“Excellent nutritional results in most cases”**

---



Adapted to  
Breast Milk



Formula by  
permission of The  
Babies' Dispensary  
and Hospital of  
Cleveland



To be used only on  
the order of  
physicians



For sale by druggists

This is the reason  
why thousands of  
physicians have  
found S. M. A. help-  
ful in their work of  
feeding infants de-  
prived of breast  
milk.

THE LABORATORY PRODUCTS CO.  
Cleveland, Ohio

---

*Literature and samples to physicians on request*

---

NEXT ANNUAL MEETING — LOUISVILLE, SEPTEMBER 22nd-25th

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., JULY, 1924

No. 7

## CONTENTS AND DIGEST

### EDITORIALS

COUNTY SOCIETIES	213
OUR ALUMNI	213
REVOCATION OF CERTIFICATES UNDER THE PRACTICE ACT	214
DIPHTHERIA	214
TYPHOID FEVER	214

### SCIENTIFIC EDITORIAL

ARGYROL AND ITS EFFICIENCY, By Adolph O. Pfingst, Louisville	214
--	-----

### OFFICIAL ANNOUNCEMENT

PRELIMINARY PROGRAM, KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 22-25, 1924	215
--	-----

### ORIGINAL ARTICLES

TREATMENT OF DIPHTHERIA OF THE LARYNX, By S. S. Watkins, Louisville	216
PYREXIAS OF OBSCURE ORIGIN IN CHILDREN, By Philip F. Barbour, Louisville	218
DISCUSSION, By W. O. Eaton, Julian Estill, Emmet F. Horine and in Closing the Essayist	
SURGERY OF THE SPLEEN, By Charles A. Vance, Lexington	222
TREATMENT OF UNUNITED FRACTURES, By J. M. Salmon, Ashland	226

(Continued on Page V.)

## JUST READY—NEW (2ND) EDITION

# Cotton's Dislocations & Joint Fractures

While this is called a new edition it is in fact a brand new work. It has virtually been rewritten. It had to be—the developments in this field were so many.

What is there about this work which stamps it as unusual, as a noteworthy addition to medical literature?

Well, first of all it is a record of **personal experience** extending over a long period of years, supplemented by the experience, the judgment, the case analyses of other workers in this field.

Then, its **originality**—an originality extending beyond the text into the illustrations because everyone of the 1393 striking illustrations is from the pen and brush of Dr. Cotton himself.

Next the unusual attention given to **joint fractures**. This is a division frequently neglected or slighted in works on this subject. Dr Cotton, however, has recognized the special difficulties in the diagnosis and treatment of joint-fractures and has, by pen and brush, done much to solve these problems for the general practitioner and surgeon.

All the great advances in fracture work hastened in development during the past years are here recorded in the light of private and hospital practice. These include the effective fixation of infected compound fractures by plates, etc., the disinfection and closure of joints, the use of physiotherapy methods. These recorded advances are based almost wholly on personal experience. They bear the stamp of thorough observation as does the whole work. This is undoubtedly one of the outstanding books of the year.

By FREDERIC J. COTTON, M.D., Visiting Surgeon to the Boston City Hospital. Octavo volume of 745 pages, with 1393 original illustrations. Cloth, \$10.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



## MEAD'S

# *Preventing Nutritional Disturbances In Infants*

By far the largest majority of children that are brought to hospitals suffering from severe nutritional disturbances are victims of serious errors made by parents who failed to consult their physicians, and who attempted to feed their babies without a doctor's advice.

*If all babies were under a competent physician's care, infant mortality would be surprisingly reduced.*

MEAD JOHNSON AND COMPANY realize that the *physician is the only one capable of feeding babies successfully*. MEAD'S INFANT DIET MATERIALS, therefore, have no directions on the package, the mother gets her feeding instructions *only* from her doctor and follows his advice throughout the feeding period.

MEAD'S DEXTRI-MALTOSE, Fresh Cow's Milk and Water will give gratifying results in feeding a large majority of bottle babies.

MEAD'S CASEC and MEAD'S POWDERED PROTEIN MILK are splendid for fermentative diarrhoeas.

Samples and literature sent at the physician's request.

MEAD JOHNSON POLICY—Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feeding from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & COMPANY  
EVANSVILLE, IND. U. S. A.



MAKERS OF INFANT DIET MATERIALS EXCLUSIVELY

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., JULY, 1924

No. 7

## EDITORIAL

### COUNTY SOCIETIES

This is the period of greatest activity in the county societies. Eighty-seven of our counties are holding regular meetings during the summer. Is yours one of these? If not, please feel that the responsibility is as much yours as that of any of the officers. If your Secretary is a dead one, call a meeting yourself and help to enliven it with case reports and good discussions. Many of the meetings are being held in the country with picnic dinners. Quite a number of the counties are holding two or three days' sessions at some camping place and notifying the physicians of neighboring counties to meet with them and bring part of the food, both physical and professional. The Councilors of the State Association are growing greater activity than for many years. They are ready to call a meeting in any society where the work has not been on an active basis or are ready to come to you with advice and help in all the counties.

Let's make this the best year for actual work in every county.

### OUR ALUMNI

Alumni Week at the University of Louisville this year was a real home-coming. Three hundred and thirty-one former graduates attended the banquet and there were more than one hundred others present at some time during the week. Twenty-six states were represented. The Clinical Program, published in the last issue of the JOURNAL, was carried out in great detail and the graduates of the old University, from Maine to California, were loud in their praise of its real post-graduates service to them.

The annual banquet at the Pendennis Club was an outstanding success. President Harman of old Transylvania made an inspiring address, giving some details of the lives of those pioneers in medicine who first broke ground in the wilderness and who were the founders of medicine in the West. Dr. Ha-

ven Emerson, the distinguished director of the School of Public Health of Columbia University, New York, delivered an address on "Modern Trend in Medical Education," which will result in a tremendous gain in the usefulness of every man who heard it and will have a marked influence on the courses at the University of Louisville. Doctor Emerson emphasized the importance of the increased age at death of the present population of the United States. Thirty years ago the average baby born in this country had an expectation of life of some twenty-seven years. Now he has an expectation of fifty-five years. This is due not only to medical science but to improved conditions of living, to a far more general education and to a realization on the part of the average man that his health and that of his children are matters of importance. Doctor Emerson contrasted the medical education of the past, based largely on pathology having to do with remedial medicine in the presence of disease, which largely appertained to the individual, with the medical education of the future, which will be based mainly on physiology and will have to do chiefly with community health and preventive medicine. In the course from which most living physicians graduated, their time was spent on the recognition of pathological conditions. The public learned from the examination of recruits during the War that it was better to be examined, while apparently healthy, periodically, than to wait to have the examination made after the defects have developed into actual disease. His plea was that the physicians should arrange their offices for systematic periodic examination of the well and that they should ground themselves in knowledge of dietetics and in the recognition of tendencies toward disease so that they might perform the greatest possible service to humanity. With our present knowledge applied, most of the infectious diseases would be reduced to a minimum and the physician of the future will largely depend on the examination of the apparently well and will be a life engineer.

The success of this alumni week will be a stimulus to the faculty of the University to plan to even greater degree things for the future.



## REVOCATION OF CERTIFICATES UNDER THE PRACTICE ACT

Charges have been preferred before the State Board of Health against several physicians in the State for conviction for violation of the Harrison and Volstead laws, for false and fraudulent advertising and for the use of Abrams' and other similar worthless methods of diagnosis and treatment for disease. The people of Kentucky have repeatedly expressed their confidence in our profession. It is our job to clean house whenever we find those who are guilty of unprofessional or dishonorable conduct of a character likely to deceive or defraud the public. The Harrison and Volstead acts are both technical and sometimes irksome but they are the laws of the land and it is our duty to uphold them in letter and in spirit. That the registered physician who fails to do so is guilty of a crime involving moral turpitude is well recognized.

The fact that practically every physician of Kentucky is complying with these and other laws makes it all the more important that the profession should not bear the onus of the few who are guilty of violating them.

## DIPHtheria

Diphtheria is a vanishing disease in the practice of the physicians of Kentucky. Toxin anti-toxin is being administered to the children in quantities that are both encouraging and astounding. Many physicians are telling the parents in every family where they see a case of sickness that their children should be immunized from this dreadful disease. In the cities, as a rule, the children are inoculated against diphtheria only after the use of the Schick test because many of them are immune, but, in the country, such a large proportion are non-immunes that it is usually unnecessary to do the preliminary Schick.

The increased incidence of diphtheria in the country begins with the opening of schools in July and reaches its height with the opening of the city schools in October. Children should be immunized now against the disease.

## TYPHOID FEVER

Kentucky, unfortunately, has the record of the highest death rate from typhoid fever in the registration area of the United States. This will continue until our people, both in the incorporated towns and in the country, realize the importance of safe water supplies and effective sewerage disposal. They will realize this just in proportion as their family physicians teach it to them. The health officer furnishes the nucleus of the development

of preventive medicine but the health officer who will always have the most influence with his families is the doctor who is their chosen adviser. It is coming to be recognized now that the doctor who has many cases of typhoid fever in his practice is not a safe adviser for his clientele. In sections of the State where the water supply is still polluted—and this is most of them—every physician should be carefully vaccinating all the non-immunes in his practice every two years.

Typhoid vaccine, made on the Army formula, which has proved so universally successful, is manufactured in large quantities by the State Board of Health and is distributed to physicians free. Write to the Board in Louisville for the quantity you need.

## SCIENTIFIC EDITORIAL

### ARGYROL AND ITS EFFICIENCY.

In view of the present extensive use of argyrol in medicine and especially in ophthalmology, the laboratory experiments recently made by Dr. R. C. Cheney of Boston to determine the bacteriacidal power of argyrol and kindred agents are of unusual interest. Cheney experimented with various strains of the staphylococcus aureus obtained by scraping a profuse growth from a blood serum slant into the water of condensations in the tube. In the first experiments two platinum loops of this suspension were added to 2 c. c. of 25 per cent solution of argyrol. A diminution of bacterial growth was noted in from 20 minutes to 4 hours (average of 2 hours) and a sterile solution had in most instances not resulted in 3 to 4 hours. Such results would naturally lead to the conclusion that argyrol as a bactericide is inert, yet such conclusion is not in keeping with clinical experience with argyrol. In an endeavor to explain this discrepancy further experiments were made with much weaker suspensions of the staphylococcus. From the same suspension employed in the other experiments, merely what would adhere to a straight platinum wire, was transferred to the argyrol solution. With this modified technique, even when employing a 1 per cent solution of argyrol, diminished growth was noted in 1 to 2 minutes and sterile solution obtained in 2 hours. The slower action which took place when a denser suspension of bacteria was employed has its explanation in the greater number of bacterial clumps contained in the organisms on the interior of the clumps being protected and escaping contact with the germicidal agent. In a comparative way it was further shown that pro-

targol caused diminution of bacterial growth more rapidly than argyrol and that nitrate of silver solution was markedly more efficient than either of the other two agents. In the bacterial suspension in which the first diminution of growth with argyrol averaged two hours, the same suspension in a 1 per cent solution of nitrate of silver always showed a marked diminution in 1 to 2 minutes and gave a negative culture in 5 minutes. In brief, laboratories show that nitrate of silver, protargol and argyrol, in the order named, have a strong bacterial action on staphylococci when the bacteria are unclumped.

Applying these experiments to clinical conditions, equal quantities of pus from an axillary abscess containing the staphylococcus aureus, were placed in bottles containing various strength solutions of argyrol, protargol and nitrate of silver and the mixtures vigorously shaken. The interesting observation was made that after 24 hours the 1 per cent solution of argyrol and 4 per cent solution of protargol had precipitated out and the solutions had lost their bacterioidal power, whereas the pus had not been able to inactivate the 25 per cent argyrol solution. It took several days for the 25 per cent argyrol solution acting on staphylococcus aureus in pus to bring about a diminution in growth, whereas it took but 15 minutes for a 1 per cent solution of nitrate of silver to accomplish the same result.

The conditions of gonorrheal ophthalmia approached laboratory conditions very closely as the pus is abundant and collects in the conjunctival sac, hence Cheney concluded that in gonorrheal ophthalmia we are justified in the belief that nitrate of silver is easily the most efficient drug and that protargol which may be used in strengths up to 20 per cent is superior to argyrol. In many cases of severe suppurative conjunctivitis the microorganisms enter into the tissue. As the bacteria in the tissue are doing the damage it cannot be expected that they be reached with germicides weak enough not to destroy the tissues, hence the importance in these cases of frequent mechanical cleansing of the conjunctival sac by irrigations. The germicidal agents no doubt play a part in preventing reinfection, nitrate of silver being the one of choice on account of its greater resistance to the action of pus.

In the ordinary mild attacks of acute and chronic conjunctivitis in which the discharge is as a rule less abundant and in which bacteria are not clumped in the secretion, argyrol and protargol are frequently very effi-

cient, most likely on account of the role they play in preventing reinfection rather than by destroying the exciting organisms which presumably are in the tissues, where the bacterioidal agents cannot reach them.

ADOLPH O. PFINGST.

## OFFICIAL ANNOUNCEMENTS

### PRELIMINARY PROGRAM KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 22-25, 1924

Obstetrical: (address) Paper (Requested)  
Asa B. Dais, M. D., New York.

Medical: (address) Paper, Alfred Stengel,  
M. D., Philadelphia.

Surgical: (address) Paper, Stuart McGuire, M. D., Richmond.

Intracranial Hemorrhage of the New Born:  
J. H. Pritchett, M. D., Louisville. Discussion  
led by Jas. Bruce, M. D., Louisville.

Purpura Hemorrhagica: Morris Flexner,  
M. D. Louisville. Discussion led by Julian  
Estill, M. D. Lexington; J. L. Toll, M. D.,  
Lawrenceburg; Virgil G. Kinnaird, M. D.  
Lancaster.

Blood Transfusion, Various Methods and  
Results: R. L. Woodard, M. D., Hopkinsville.

Blood Transfusion, Its Indications: C. C.  
Howard, M. D., Glasgow.

Blood Stream Infections, Laboratory Viewpoint: Leon K. Baldauf, M. D., Louisville.

Mercurio-chrome in Blood Stream and other  
Infections: V. E. Simpson, M. D., Louisville.  
Discussion led by Hugh Prather, M. D., Hickman;  
Wilgus Bach, M. D., Jackson; Geo. W. Purdy, M. D., New Liberty; J. A. Flexner, M. D., Louisville.

Fractures: Action of Muscle Groups in  
Production of Displacement of Fragments:  
J. G. Sherill, M. D., Louisville.

Open Method of Treatment of Fractures:  
Horace Rivers, M. D., Paducah.

Treatment of Fractures of and about  
Joints: C. A. Vance, M. D., Lexington.

Treatment of Hip Fractures: J. M. Salmon, M. D., Ashland. Discussion led by W. B. Owen, M. D., Louisville; J. G. Gaither, M. D., Hopkinsville; Jno. H. Blackburn, M. D., Bowling Green; I. A. Arnold, M. D., Louisville; O. W. Rash, M. D., Owensboro; W. Jackson, M. D., Paducah.



Chronic Osteo Myelitis and Tuberculous Fistula Treated by the Injection Method: B. A. Washburn, M. D., Paducah.

Gall Bladder Shadows: Chas. D. Enfield, M. D., Louisville. Discussion led by J. B. Mason, M. D., London.

The Diagnosis of Gall Bladder Infection and its Differentiation from Gastric and Duodenal Ulcer: Fred Rankin, M. D., Lexington.

The Treatment of Gall Bladder Infections. Is there a Medical Treatment?: D. C. Donau, M. D., Morganfield. Discussion led by Geo. A. Hendon, M. D., Louisville; Ernest Bradley, M. D., Lexington; B. F. Robinson, M. D., Berea; F. M. Travis, M. D., Benton.

The Early Recognition of Goitre and the Dangers of Procrastination in Treatment: J. L. Pythian, M. D., Newport. Discussion led by Jno. R. Wathen, M. D., Louisville; Floyd K. Foley, M. D., Central City; B. W. Smock, M. D., Greenville; R. Hayes Davis, M. D., Louisville.

Local Anesthesia: Jno. W. C. Stevenson, M. D., Ashland. Discussion led by B. F. Zimmerman, M. D., Louisville; W. I. Hume, M. D., Louisville.

Breast Tumors — Benign and Malignant: Jno. D. Jackson, M. D., Danville. Discussion led by Jno. E. Kincheloe, M. D., Hardinsburg; Irvin Abell, M. D., Louisville; J. G. Carpenter, M. D., Stanford.

Indications and Methods of Inducing Abortion and Premature Labor: Jas. T. Dixon, M. D., Owensboro.

The Abuse of Forceps and other Methods of Hastening Delivery: S. D. Breckenridge, M. D., Lexington.

Treatment of Eclampsia and Pre Eclamptic Toxemia: Henry Rubel, M. D., Louisville.

Present Status of Pituitary Extract in Obstetrics: Walker B. Gossett, M. D., Louisville. Discussion led by Gavin Fulton, M. D., Louisville; Edw. Speidel, M. D., Louisville; E. A. Stevens, M. D., Mayfield; Geo. J. Herrman, M. D., Newport; T. A. Frazer, M. D., Marion.

Pyeitis, Its Recognition: Vernon Blythe, M. D., Paducah. Discussion led by Carl Wheeler, M. D., Lexington.

Renal Infections in Pregnancy: Geo. H. Day, M. D., Louisville. Discussion led by L. C. Redmon, M. D., Lexington; Owsley Grant, M. D., Louisville; Claude Hoffman, M. D., Louisville.

Paper (Skin Diseases) Illustrated: Wm. J. Young, M. D., Louisville.

## ORIGINAL ARTICLES

### TREATMENT OF DIPHTHERIA OF THE LARYNX.\*

By S. S. WATKINS, Louisville.

Laryngeal complications in diphtheria occur in from ten to thirty percentage of the cases. In the Chicago Municipal Contagious Disease Hospital for the years 1919 and 1920 the laryngeal cases were approximately sixteen percentage of the total. (1) The total diphtheria mortality in the same hospital for 1920 was 9.66 percentage and the mortality of intubated cases for the same year was 15.6 percentage. Hogan (2) reports that in Baltimore for the years 1919 and 1920 there were 246 deaths from all forms of diphtheria and that of this number 202, or 82.11 percentage, were of the laryngeal type. In Kentucky (3) for the years 1921 and 1922 diphtheria was the most fatal of the acute infectious diseases of childhood and the fifth most fatal of all "preventable" diseases; tuberculosis, pneumonia, cancer and the diarrhoea group preceding it in the order named.

These statistics show that diphtheria is still a very serious menace to the community and is quite fatal even when treated under the best conditions in special hospitals. Also, that the laryngeal complications are especially fatal. In our state it is a most important problem and one that deserves more attention than we are giving it.

As we all know, the prerequisite of successful treatment in any disease is a correct diagnosis. The more accurate this is and the more promptly it is made the more effective the treatment will be. In no condition is this more true than of diphtheria of the larynx. A majority of the deaths and complications are due to late diagnosis.

About one third of the laryngeal cases taken to the Chicago Municipal Contagious Disease Hospital during 1918, 1919 and 1920 died within the first twenty-four hours, because they were practically moribund when the true condition was realized and were brought to the hospital as a last resort. There are, therefore, certain points in the diagnosis that I wish to emphasize before discussing the treatment.

While diphtheria of the larynx is in the great majority of cases secondary to diphtheria of the pharynx, tonsils or nose, laryngeal symptoms may be primary. It is often true that in the beginning of the disease a

\*Read before the Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association, Crab Orchard Springs, September 18, 19, 20, 1924.

redness, or infection of the mucous membrane is all that is visible. In the larynx there may be only an oedema and a slight redness of the surface membrane. In children under three years of age, the oedema is more marked in the subglottic area where the mucous membrane is capable of marked swelling. Indeed, in the early stages diphtheria may resemble clinically any acute infection of the upper respiratory tract. After the typical membrane has formed the diagnosis is easy but by then the disease is well advanced and usually three or four days old, and the chances of recovery are decidedly less. We must learn to diagnose it earlier if we wish to reduce the mortality to a minimum.

Every sore throat and all forms of croup are suspicious of diphtheria and deserve close observation. Colds in children that start in the nose and spread to the throat and cause cough and hoarseness are especially suspicious. Some authorities (4) consider the nose and nasopharynx as the primary focus in diphtheria.

In such cases a cotton swab should be rubbed over the lower pharynx and tonsils and smears made on slides. This can be done at the bedside in a few minutes and later examined at one's office. While a negative smear does not rule out diphtheria, a positive one clinches the diagnosis and permits prompt treatment with antitoxin before serious symptoms can arise. Cultures require, usually, twelve hours to grow and, while more often positive than smears, are less practical, due to the delay. This is especially true in private practice where the patient cannot be under the constant supervision of the specialist; and, of course, cultures are not at all practicable in country practice. So their use is limited largely to hospitals for contagious diseases and under ideal conditions in private practice in large cities. But, smears can be made anywhere. The technique of preparation for examination is simple and it is not necessary to be an expert bacteriologist to learn to recognize the Klebs-Loeffler Bacillus. When the laryngeal symptoms are acute, bacteriological studies are out of place until the patient is relieved and then only for the purpose of verifying the diagnosis.

When the diagnosis of diphtheria is made or there is a strong suspicion of it, large doses of antitoxin should be administered. Small children should be given intramuscular injections of from 5,000 to 10,000 units, and large children and adults from 15,000 to 40,000 units. In some cases, even larger doses are necessary. When the case is advanced and the patient very toxic, the antitoxin should be

injected intravenously—3,000 to 5,000 for children and 10,000 to 15,000 for adults. The dose should be reduced when given this way, because the action is much quicker than by other methods and sometimes there is much shock. If necessary, it can be repeated in a few hours. The hypodermic method is too slow for use in treatment. Many patients have died because of under doses of antitoxin but few, if any, from an overdose. The earlier a sufficient amount is given the less frequently serious complications will occur and the less, the need of intubation and tracheotomy. It is advisable that every physician who does a country practice should have a supply of antitoxin constantly on hand. He can keep it in his ice box, or ice house, and during the cold months can carry two or three tubes in his "car." This precaution will sometimes save life.

As soon as the patient begins to use the accessory respiratory muscles, which is shown by indrawing at the suprasternal notch, above the clavicles, in the intercostal spaces and in the epigastrium, intubation, or tracheotomy, should be done and the sooner the better. It is dangerous to depend on antitoxin alone. A few cases may recover but the majority will not. Not only is there danger of the patient choking suddenly but the prolonged labored breathing is injurious to the heart. Not a few deaths from diphtheria are due to cardiac exhaustion.

There is less difference of opinion now than several years ago, as to the relative value of intubation and tracheotomy in diphtheria of the larynx. Undoubtedly the former is far more popular. There is, notwithstanding, still a place for tracheotomy, and some well known authorities prefer it. The most important factor to be considered in deciding between these two methods is the location of the patient. In a contagious hospital where physicians skilled in performing it are constantly in the building, intubation is, as a rule, preferable to tracheotomy. The same is true also in private homes, provided a nurse experienced in intubation cases is constantly on duty, and the doctor lives nearby. On the other hand, intubated patients in the country are not safe risks because the patient may cough up the tube and choke before the doctor can get there to replace it. Fortunately, this does not often occur but occasionally it does. Choking is impossible in tracheotomy cases properly cared for. When the surroundings are not hygienic, it is probably wiser to trust to intubation than risk infection of the tracheal wound.

Chronic tube cases, even in contagious hospitals, should have a tracheotomy. When



these patients have worn an intubation tube ten days and cannot do without it for longer than a few minutes, it is advisable to perform a tracheotomy. Repeated intubation will tend to produce a stricture and besides, the patient is always in danger of coughing up the tube and choking before it can be replaced. All chronic tube cases should be examined with a direct laryngoscope to determine the condition of the larynx and subglottic area.

The details of performing intubation and tracheotomy with which you are familiar may be passed over, but there are several important points relative to them that the speaker wishes to mention.

When the cardiac action is poor, intubation should be done in bed with patient on his back.

It is a good plan to remain with the patient for one hour after intubating. In a great majority of cases the tube when too small is expelled within this time. It is well to wait likewise an hour after extubating, to make certain that the patient can do without the tube.

The most satisfactory way to feed an intubated patient is to place him on his side and give liquids with a spoon.

When tracheotomy is decided upon it is well to intubate first and use the tube to make the trachea more rigid. Also, it permits calm and careful surgery, which is important. Low tracheotomy is preferable to the high or medium operation, but it is more difficult due to the deep dissection and the proximity of the large blood vessels of the neck.

Stimulants should be given to support the heart. It is always a good idea to give an enema soon after relief of the obstruction to breathing. It is difficult for intubated patients to swallow a laxative and, besides prompt cleansing of the lower bowel is more effective.

It is better not to use the steam tent, because the moist heat may increase the congestion. Warm dry air is beneficial. Calcidine also helps to reduce the swelling.

In resume the treatment of diphtheria of the larynx may be stated in a few words, as follows: early diagnosis; antitoxin at once; prompt intubation.

#### References.

- (1) Journal A. M. A. 5-7-21. Vol. 76, No. 19, pp. 1305-1307.
- (2) Journal A. M. A. 8-27-21. Vol. 77, No. 9, pp. 502-665
- (3) Bulletin of the State Board of Health of Kentucky, Vol. XIII, June 1923. No. 2, pp. 15 and 16.
- (4) Thompson, Sir Saint Clair, Dis. of Nose and Throat, 1917, N. Y. pp. 723.

## PYREXIAS OF OBSCURE ORIGIN IN CHILDREN.\*

By PHILIP F. BARBOUR, Louisville.

One of the unexplained phenomena of life is fever. There is an increased production of heat and an increased elimination of heat, but no tenable theory has yet been offered to explain why this disrupted temperature control takes place. Fever becomes a very valuable symptom in most diseases and often diagnosis is made by the range and the irregularity or regularity of the temperature. There are other conditions however in which fever does not assume any regularity, then it is of no assistance in the diagnosis. At the same time we are often at a loss to account for the fever in the absence of localizing symptoms. It is the purpose of this paper to call to mind some of the syndromes which will point out the cause of the fever.

### INANITION FEVER

Inanition fever comes on usually two days after birth. It may reach as high as 104.5 degrees. This is believed to be due to the failure of the child to get sufficient fluid from the Mother's breast before the secretion of the milk has been established. It is very important to give the new-born babe plenty of water. Fever is believed by many people to be due to the dehydration of the tissues. Sometimes one is deceived by the fact that the mother's breast seems to be full. The only accurate way to determine the amount of fluid taken is to weigh the baby before and after nursing and to measure the amount of water taken by the mouth. Some contend that the fever here is the reaction of the child to internal infection which occurs so promptly after birth. The administration of water in sufficient quantities relieves the fever and the flow of urine which was scant is increased and the stools become more free.

### UMBILICAL INFECTION.

Infection of the umbilicus is responsible for obscure fever in new-born babies. When we remember that bacteria can get into the blood vessels not only at the cut end of the umbilical cord but also through the sides we have much space here for infection to take place. Bacteria travel through the umbilical vein and may produce either phlebitis, perhepatitis, peritonitis or general septicemia. There is very little resistance in these babies and the infection is virulent so they die with no localizing symptoms pointing to the place

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.

of the infection and the umbilicus itself may not have given any evidence of infection.

#### TUBERCULOSIS

Tuberculosis naturally suggests itself as a frequent cause of fever in the child. The tubercular involvement is not frequent in very small children and the incidence is rather slight until the advent of puberty. If the child in utero is infected the disease is of such a rapid nature that death is not long delayed, also if the child contracts tuberculosis by contact with active cases in the household the progress is apt to be rapid. If, under the circumstances the child has sufficient vitality and the contact is not very close the child may have sufficient immunity to carry it along unless there has been some other infection to lower the resistance and light up the tuberculosis. Measles and whooping cough are practically liable to stir up a latent tuberculosis when otherwise the child might have been able to handle it. It is very important in suspected tubercular cases to get a very accurate history of the exposures. Sometimes they contract it through relatives and many times through servants in the household. The von Piquet reaction is very helpful in diagnosis in that the marks indicate not only infection of recent origin but of active type. Sometimes the child is so overwhelmed that it is not able to form any antitoxin bodies and the test will be negative in the face of the fatal involvement. The lung symptom in such cases are quite apt to be masked. In this probably the X-ray will aid in a definite diagnosis. The mass infection involves numerous small nodules extending subsequently to the lymph glands, winding up through the blood stream with the blood stream infection. Meningitis is a fatal involvement. The bovine type of infection is far milder and may be seen in the bone and the lymph gland and this is apt to run a lower temperature than in the human race.

#### PYELITIS.

Pyelitis is more frequently overlooked than any other of the conditions that cause fever. The examination of urine in the child is not done as frequently as it should be because of the difficulty in securing the urine and because the doctor does not think the kidneys are the cause of fever. Cystitis itself is quite common in the child and will cause fever. Examination of the urine reveals the presence of pus and bacteria. Inexperienced microscopists do not differentiate between pus cells from the kidney and from the bladder. If the pus cells are in large quantities and clumped and bacteria are found with them, then we can certainly say there is infection in the urinal tract. The statement is often

made that Pyelitis is far more common in girls than in boys. It is just possible that many cases of cystitis in female children will be diagnosed Pyelitis. If the involvement of the pelvis of the kidneys is hematogenous in origin only then there is no reason why girls should be infected more frequently than boys. We should be on the lookout for involvement in the kidneys whenever there has been infection in the nose, throat, ears or upper respiratory tract. We must not forget also that a colon bacillus pyelitis may follow an involvement of the mucous membrane of the intestine. In the treatment of these colon bacillus cystitis, it is obligatory to remove the focus of infection by treating the mucous membrane of the intestine otherwise the infection will continue to occur and our therapy of the kidney tract is unjustly blamed.

#### MALARIA

We must place malaria as a cause of fever in children in this category. The malarial infection in adults causes regular chill, fever and sweat with well defined intermissions. Malaria does not occur in children with this clinical picture. It is not characterized by initial chill, the intervals are not nearly so regular. There may, in fact, be remissions instead of intermissions. It is believed to be in some cases hereditary. In a district where malaria is very prevalent it is probable that a diagnosis of malaria is made more often than is warranted by facts. The reverse is true in non-malarial districts. There irregular types of malaria may go unrecognized. It is believed by certain authorities on Malaria that it is exceedingly difficult absolutely to eradicate malaria when infection has once taken place. Of course the blood picture is a great help if the plasmodium is recognized, but unfortunately it sometimes eludes examination. In such cases the residence of the child in well recognized malaria districts should constitute presumptive evidence of infection by the anophyles. One should not go to extremes either in the use or the non-use of quinine in children.

#### SINUSES.

One of the more recently studied infections in children is that of the accessory sinuses in the nose. It has only lately been accepted that the sinuses are developed in children to the extent of becoming infected and causing obscure fever. Hardly anyone now overlooks tonsils and adenoids, in fact there has been probably entirely too much surgery done on these glands. The pendulum has certainly swung back from wholesale tonsilectomy in the last four or five years. Whenever the crypts filled with cheesy material and



the adenoids are smeared over with a purulent secretion and cervical glands are swollen from frequent attacks of fever that reduce the child's strength and vitality then an operation is obligatory. Many times however, with this we shall find an involvement of nasal and paranasal sinuses. It is at times difficult to diagnosis sinus involvement. If there is a free flow of pus from the upper nasal cavities which is draining back into the pharynx to be swallowed diagnosis is easy but many times sinuses become blocked and there is no visible exudate. The X-ray is at best difficult to read. The leucocyte count is often helpful in such cases. Following the chill and elevation of temperature there will be a high leucocyte count with high polynuclear percent. When the pressure of pus in the sinuses gets to such a point absorption takes place and symptoms such as described may be seen. With the relief of the pressure and absorption the temperature will decline also the leucocytes. In such obscure cases the assistance of a nose and throat surgeon will be of great value.

#### EAR-INFECTION.

One of the unrecognized sources causing fever is inflammation of the middle ear. Unfortunately the child does not always cry or show evidences of local trouble to call attention of the physician to the ear. This is always to be considered possible especially when there is history of an antecedent coryza but usually in such cases there is a tenderness over the tragus of the affected side and pressure there will make the child cry or show other evidences of pain. The glands draining the area are in the posterior cervical group just behind the posterior margin of the sterio-cleido-mastoid muscle. Sometimes one gland will be quite large and often times there will be a bunch of glands swollen at the same time. Of course an examination of the middle ear should be resorted to. Even with an expert hand inflammation is not always recognized because of the anatomical relationships which are not the same as in the adult. If the drum membrane is reddened and especially if it is bulging then paracentesis should be performed.

#### FOCAL INFECTIONS.

Without going into detail there are other causes of fever many of which are more or less obvious but it must be conceded that some children are of a neuropathic constitution and may develop fever with slight and sometimes no discernible cause. The exertion of normal play, excitement of moving picture show and any other strain will cause a rise of tem-

perature. Such cases require rest and such adjusting of the daily routine as will tend to counteract the nervous tendency. The nervous system of a child has not reached the stability observed in the adult and the thermogenic centre is more easily influenced and deranged. So we must bear in mind the hereditary constitutional faults.

#### DISCUSSION.

**W. O. Eaton:** As this is the first acquaintance that I have had with Dr. Barbour's paper, whatever I may say will have to be purely on inspiration. Dr. Barbour has covered this subject almost as the negro preacher got up and told his congregation he was going to do — "explain the unexplainable, tell the untellable and unscrew the unscrutable." When a man starts in to explain the obscure fields of fevers of childhood, he has almost got to be able to have the ability to "unscrew the unscrutable."

The thing that I want to emphasize in particular, and that is overlooked more often, is pyelitis. Dr. Barbour made the statement that there was no need of the female child being infected any oftener than the male child. Notwithstanding Dr. Barbour's statement, I think the authorities say, and our own experience will prove the contrary, we should examine the urine of practically every sick infant; and I think we should. There are many ways of getting urine even in a very young baby. The women nowadays have a sort of mackintosh cover for the diaper. You can take some string and tie up the legs, have it as sterile as you can make it, bind it between the child's legs, and in that manner get some of the urine. Oftentimes you will be treating what you think is a pneumonia. Your pneumonia will clear up and in a few days you will have a recurrence. By and by you examine the urine and you will find it is full of pus. You institute proceedings that will clear up the urine and your pneumonia disappears. Oftentimes you will be treating a child for colitis; your colitis will respond to treatment and in a day or two recur. Examine your urine and you will have the same experience. You may have symptoms of appendicitis. I have known children to be brought to the hospital with the belief that they have appendicitis. If you examine the urine you find it loaded with pus; clear up the pus and your appendicitis disappears.

There is one other fever which I have found quite obscure. I haven't had any large experience with infantile paralysis, but I dare say there isn't a doctor in the room but what has occasionally had a child sick, with temperature, restless, and all that sort of thing, and for the want of some better diagnosis has said the child had gripe. He treated it, the temperature went

down and he thought the child was getting better. In a couple of weeks he meets John, the father, in town, and asks how the baby is. It can't walk; the child had infantile paralysis. I defy any doctor who has a case just now and then, to diagnose infantile paralysis until the paralysis comes on, and often it doesn't come on for two weeks.

**Julian Estill, Lexington:** I think as a working rule the term obscure pyrexia is a misnomer and is misleading. As a matter of fact, the vast majority of these so-called obscure pyrexias are not obscure at all if you examine the patient. It is important in every class of cases, of course, to examine the patient thoroughly, but I know of no condition where it is more important than in these cases of prolonged and irregular temperatures to make a complete examination. In the majority of cases a complete examination will reveal the fact that you have not an obscure pyrexia at all but a very evident one from some cause that you will find in a complete examination. In my own experience the causes for these continued temperatures are, in point of frequency, first the so-called submerged tonsil and adenoid always infected and the accompanying nasal accessory sinus. Many of these tonsils will not seem to be infected at first sight. They are small, they are not large, but a careful examination of the tonsil, pressure on the tonsil or part of the throat surrounding the tonsil, the pillars, will reveal infection, and cultures taken from them will reveal some type of infection, oftentimes a streptococcus hemolyticus.

The fact that we do have infection of the nasal accessory sinuses in childhood accounts for the failure to get results in so many cases where the tonsils and adenoids are removed. These children are not benefitted at all and we are inclined to think that the operation has not been properly done. As a matter of fact, it has been, but the nasal accessory sinuses are infected and overlooking them will fail to give the result that is desired in your tonsil operation.

Next in importance and in frequency as a cause are the cases of pyelitis. It is a good rule to follow, it certainly has proven so to me, that in any case of continued temperature where a complete physical examination fails to give any signs at all, it is surprising how often you will find pus in the urine. Of course, it is important to make routine urine examinations in every child as it would be in any adult.

Third in importance and in frequency is acute miliary tuberculosis. This is more common, perhaps, than we realize. I believe the X-ray is of vast importance in helping to make a diagnosis early in these cases. It will show a mottling long before a physical examination will show any sign to the stethoscope and percussion and so on.

I believe the whole essence of a paper of this kind should be summed up in the warning to all of us that wherever we have a child with a continued irregular temperature, the important thing for the child and for us is to make a complete physical examination, stripping the child, examining him from top to toe, and in the vast majority of cases your pyrexia will not be obscure but will be very evident after your examination.

I believe there is no such condition as idiopathic pyrexia. It simply means we have not been able, with the methods at our command, to make a diagnosis or to find the cause for the infection. Undoubtedly we do find cases from time to time where we cannot find the cause, but that does not mean there is no cause; it simply means we have not been able to find it.

**Emmet F. Horine, Louisville:** This is an extremely broad subject and one that is very important. I really am sorry that every member of the State Association is not present to hear this very valuable contribution. I think that so often we do not go over the patient carefully enough and simply say that perhaps the cause for the increase in temperature is an intestinal proposition, and let matters run along in that way, failing to examine the patient carefully and failing to find out early in the case the exact cause for the increase in temperature.

Added to those conditions that the essayist mentioned I want to call attention to an important cause for obscure fever in children, that is involvement for the endocardium. So very often patients with endocarditis in the early stages have temperature that is only slightly elevated, irregular in type, and unless one has this in mind it is extremely easy to overlook such cases. I may say that the diagnosis is decidedly difficult, but we should bear this in mind and in those patients in whom the temperature is not particularly high but in whom the pulse rate is decidedly out of proportion to the temperature, we must think of a possible endocarditis.

Murmurs will not help us. To and fro friction rubs will not help, and we must simply make our diagnosis largely through exclusion.

**P. F. Barbour: (In Closing).** The purpose of my paper was to call attention of the general practitioner to the fact that there were a great number of sources of focal infections and I was suggesting some of these different places to which a man might go to find the cause of the fevers, those fevers which were less obvious and less easily explained than typhoids and malarials, and so on. I think any doctor who will make a thorough study of his patient will find that many of these obscure fevers are perfectly plain, but I will have to confess that even the



most thorough examination that I have been able to make, calling upon assistants to help me out, has sometimes failed to determine the cause.

With increased knowledge and experience, of course, we shall find that there are fewer and fewer cases for which we cannot give a reasonable explanation.

## SURGERY OF THE SPLEEN.\*

By CHARLES A. VANCE, Lexington.

**Anatomic and physiologic survey:** The spleen is one of the larger solid intra-abdominal viscera, and is situated obliquely in the left epigastrium and hypochondrium beneath and protected by the eighth, ninth, tenth and eleventh ribs. It has four important surface connections, viz., (a) the phrenic, in contact with the diaphragm, (b) the renal, in contact with the left kidney, (c) the ventricular, (containing the hilum), in contact with posterior aspect of the stomach, and (d) the basal, resting on the splenic flexure of the colon and caudal extremity of the pancreas.

With the exception of a small area at the hilum, the spleen is covered by visceral peritoneum (greater sac.) The blood vessels and nerves extend to the viscus between layers of the gastro-splenic omentum. It is interesting to note that unless anatomically displaced the normal spleen is incapable of being palpated. Although included in the category of so-called "ductless" glands by some observers, there exists no positive evidence that the spleen furnishes an internal secretion to the systemic circulation.

Despite the extensive experimental and clinical investigations which have been in progress during past centuries, the spleen remains one of the most mysterious organs embraced within the human economy; and the *modus operandi* of its functional activity (if indeed it has specific function) had thus far eluded the critical gaze of the physiologist, the clinician, the histologist, and the microscopist. Numerous direct and indirect functional effects have from time to time been theoretically attributed to splenic activity, —hematopoietic, hepatic, pancreatic, digestive, peristaltic, hormonal, enzymic, etc,—but impartial analysis has shown every theory to be intangible and for the most part based on false premises. It is now believed the organ plays but an insignificant part in blood formation, that it is not concerned in the production of either erythrocytes or leucocytes, that it appears to manufacture a small proportion of the lymphocytes. Its chief function is probably to arrest

and disintegrate fragments of senile blood corpuscles carried thereto through the splenic artery. Physiologic researches have also apparently demonstrated a rather close relationship between the spleen, the liver, the bone marrow, and the lymph glands; but the exact nature of this inter-relationship is susceptible of adequate explanation based upon present physiologic information.

It was recently stated in the editorial columns of a prominent medical journal \* that an enormous amount of experimental investigation supplemented by clinical study has "failed to demonstrate conclusively that the spleen is an organ of intestinal secretion, or to account in any way for the fact that it is a large organ, univversally distributed in the animal kingdom, provided with a blood supply so large as to suggest that it must have great activity and most important functions. Whatever it does in the way of destroying decrepit red cells can be done elsewhere. Surely it must have some further task than this, yet, if it has, this must be readily carried on in other tissues since splenectomy is so well endured; probably this is why we cannot find out just what the chief function of the spleen is."

Lepehne believes the spleen serves partly as a "regionary lymphatic gland of the blood (Helly), partly as an endocrine organ influencing the production of blood cells, and partly in relation to the metabolism of iron and cholesterol.

Rautman noted that venous blood from dog's spleen contained one million fewer erythrocytes per cubic millimeter than artificial blood, and that the spleen retained or destroyed greater numbers of damaged than normal erythrocytes. After experimentally increasing osmotic resistance by injecting phenylhydrazin venous and arterial erythrocytes were about equal. After injecting nucleated erythrocytes (from birds) directly into splenic artery the venous blood showed only a few nucleated cells. Leucocytes in venous blood also fluctuated considerably. After intravenous injection of epinephrin venous blood showed increase of both leucocytes and erythrocytes. Typhoid bacilli, sheep erythrocytes and also intravenous injection of epinephrin increased antibodies in venous blood; whereas, after prolonged ether narcosis antibody content was considerably less. "The fact that in infectious disease the spleen increases in volume and is gorged with blood may doubtless be interpreted as a hyper-functioning of the spleen in the nature of a very extensive formation of antibodies."

Symptomatology and diagnosis of splenic

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 18, 19, 20, 1922.

\*Journal of the American Medical Association.

lesions: It is regretfully admitted that there are no pathognomonic early clinical signs by which every splenic lesion may be positively recognized and accurately differentiated.

Monihan says, however, that a number of symptoms may direct attention to the spleen, even when clinical examination fails to reveal the presence of splenomegaly, and it is through correct insight into the significance of clinical signs and morbid phenomena that proper understanding of splenic disease becomes possible.

Only a brief outline of the clinical signs can be included in this paper. In splenic neoplasms and abscesses there is usually a history of long-continued progressively increasing left-sided upper abdominal pain radiating toward the left shoulder with evident tenderness on pressure under the rib margin. Roentgen-ray investigation is often useful in diagnostic confirmation. Fever has been noted, but being inconstant has no diagnostic significance in the anaemias due to splenic or hepatic disease the blood picture furnished indicative information, but differential diagnosis is sometimes impossible even after careful laboratory study. In splenic rupture from external trauma the symptoms are shock and evidence of internal hemorrhage. Abdominal muscular rigidity is usually present. It is noteworthy, however, that indicative signs may not become manifest until several hours after receipt of the injury. The spleen is often damaged by gunshot and knife wounds. The diagnosis in such cases entails no difficulty provided the observer is competent.

Whatever may be the cause of splenic hypertrophy, when the organ becomes distinctly palpable below the rib margin one may be certain it has increased to double the normal size. As already intimated the normally situated healthy spleen cannot be palpated.

#### TREATMENT OF SPLENIC LESIONS

The spleen may be subject to many acute or chronic affections imperatively demanding treatment for the conservation of life and based upon existing knowledge the statement seems warranted that, excepting in splenic syphilis and rarely in mild pernicious anemia, the therapy of splenic disease is primarily and essentially surgical in its significance. Medical management for the most part represents a delusion which should long since have been relegated to the oblivion of exploded fallacies.

The ancients were familiar with the facts that the spleen is not essential to life. It is said that early in the year 1500 animals were

subjected to splenectomy without detriment to their general health, and about the same time the operation was successfully performed upon a human being who lived many years thereafter in comparative comfort. So far as can be ascertained Browne, in 1814, performed the first splenectomy in this country, the patient remaining in good health after the operation. Splenic surgery received its greatest impetus in 1894 when Banti described the disease which bears his name. Prior to that time, however, splenectomy had been many times successfully performed by various American surgeons.

The splenic lesions demanding surgical intervention may be divided for convenience into three representative groups, viz., (a) neoplasms, abscesses, cysts, injuries, (b) lesions implicating the blood-forming system, embracing Banti's disease, hemolytic icterus, Gaucher's disease, (c) pernicious anemia, primary hepatic cirrhosis, splenomegaly, leukemia, polycythemia vera.

Splenic neoplasms may be primarily or secondary; the former are almost necessarily of connective tissue type and may originate in any portion of the organ. The literature of the world contains less than one hundred examples of primary splenic sarcoma; primary carcinoma is almost unknown, less than twenty authentic cases having been recorded. As the spleen is practically devoid of lymphatic connections, malignant invasion occurs by direct extension or through the blood stream. Metastatic involvement of the spleen in malignancy of other structures has been rarely noted. Neoplastic disease of the spleen is ordinarily of long duration, degenerative changes are prone to occur from pressure, and splenectomy finally becomes necessary. Rarely has excision and suture been undertaken.

Splenic abscesses are fairly common and many cases have been recorded. Rupture may supervene before the diagnosis can be made and fatality generally ensues. Where rupture is delayed and splenic enlargement continues, adhesions form and in such event the abscess may be safely incised and drained.

Several varieties of splenic cysts, with and without distinct confining walls, have been described. Some are true cysts, others encysted hematmata. The majority of the latter are due to subcapsular splenic rupture from external violence, others are formed by spontaneous hemorrhage without trauma. In many instances there is a history of chronic malaria or other infection accompanied by splenic hypertrophy. Subserous or subcapsular decortication may rarely be successful,



provided hemorrhage can be controlled; otherwise splenectomy is indicated.

Traumatic injury or rupture of the spleen from external violence occurs with greater frequency than hitherto believed. Adjacent viscera are also damaged in the majority of instances. In relatively small wounds or ruptures hemorrhage may be controlled by deep sutures, but more extensive damage demands immediate splenectomy. Obviously a diseased spleen is more apt to be injured by trauma than a normal organ. The remainder seems pertinent that observable external evidence of trauma is no index to possible internal damage. The safest plan is immediate exploration if there exists even a suspicion of visceral injury.

(b) In Banti's disease or splenic anemia and in hemolytic jaundice, the most brilliant results have followed splenectomy. The same statement applies in slightly lesser degree in Gaucher's disease. Fortunately the latter affection is relatively rare.

(c) In mild so-called pernicious anemia and in suspected splenic syphilis drug treatment should be given a thorough trial. Where anemia is severe, accompanied by primary hepatic cirrhosis, leukemia, polycythemia vera or marked splenic hypertrophy, splenectomy may be undertaken with reasonable hope of successful outcome. In splenomegaly induced by certain of the infectious fevers, septicemia, protozoan infections, and in blood disorders of infective origin, splenectomy promises little prolongation of life. Leukemia, per se, is not always an indication for splenectomy. Radium treatment has been recommended and may be useful in such cases. In splenomegaly due to malarial and tubercular infections, splenectomy is usually productive of satisfactory results.

Execution of the modern perfected technique of splenectomy presents no especial difficulties. A liberal incision along the inner border of the left rectus abdominis generally gives sufficient exposure; but where the spleen is greatly enlarged lateral incision at the tenth rib may be required to facilitate delivery. After dividing the costo-colic membrane which supports the spleen, hemorrhage is readily controlled by a suitable clamp applied near the pancreatic caudal canal extremity; a second clamp affords ample protection and prevents peritoneal contamination the vessels in the pedicle are ligated separately. Adhesions if present can be separated without hemorrhage if the splenic vessels have been properly ligated and tampons are used as separation progresses.

Splenectomy should be attended by no greater primary mortality than celiotomy for

other intra-abdominal lesions in asthenic individuals. Moreover, little shock is evident and the post-operative diminution of erythrocytes and increase of leucocytes should be no greater than following other major surgical procedures.

I reported a case of splenomegaly of congenital syphilis about eight years ago, which was in a girl 16 years old. The spleen extended below the umbilicus and to the right beyond the median line and she had had it all of her life. I did a splenectomy, the spleen weighing 5 pounds after being drained of blood and she recovered from the operation. I have also done two splenectomies, one for rupture and one for a gunshot wound. They were both bleeding so profusely that nothing else could have been done. I have also done one splenectomy for Banti's disease. This spleen was also very large.

Statistical information: The literature on splenic surgery has been fairly voluminous during the last few years. The Bradshaw Lecture by Sir Berkeley Moynihan, published in 1921, constitutes one of the most valuable additions to the literature of this subject. Part of his preface reads: The surgery of the spleen has hitherto enjoyed only a restricted field. The removal of the enlarged or injured organ, or of the normal organ whose pedicle has twisted, or the opening of abscesses or cysts within the spleen has been all that it was possible to do. But in recent years the part played by the spleen in many other diseases has gradually been recognized, and an extension or surgical treatment to cases of cirrhosis of the liver, pernicious anemia, hemolytic jaundice, etc., has taken place. We are beginning to realize that the spleen, too, plays its part, perhaps a considerable one, in the etiology of diseases whose most conspicuous symptoms are evoked by associated or consecutive affections of other organs. We can no longer consider diseases which affect one abdominal organ as being restricted to that organ. In the provocation and in the development of the morbid affections of any of these viscera, many of them may take a share. The spleen, which has been little regarded in this connection, may now justly claim a measure of attention. (Moynihan)

Statistics from the Mayo Clinic, from 1905 to September 20th, 1920, as quoted by Moynihan, show the following: Splenectomies for splenic anemia, seventy-three; hospital deaths, nine; for pernicious anemia, fifty-three; hospital deaths, three; for myelogenous leukemia, twenty-six; hospital deaths, one; for hemolytic icterus, thirty-two; hospital deaths, one; for septic splenomegalies, ten; hospital deaths, two; for portal cirrhosis, biliary cir-

rhosis, lymphoma, leucic splenomegalies, lymphosarcoma, Gaucher's disease, tuberculosis, wandering spleen, splenomegaly with eosinophilia and neutrophilia and miscellaneous or questionable, forty-nine; hospital deaths, ten. Thus the total number of cases is two hundred and forty-three, with twenty-six hospital deaths. These statistics "show better than any other record the modern position of the operation of splenectomy."

Giffin and Szlapka, after analyzing and reviewing fifty cases in which splenectomy had been performed more than three years previously for pernicious anemia, present the following summary:

(1) This review concerns fifty patients with pernicious anemia for whom splenectomy was performed; all were operated upon more than three years ago:

(2) The operative mortality was six per cent:

(3) Ten patients of those who recovered from operation survived splenectomy three years or longer:

(4) Five patients of those who recovered from operation have survived splenectomy more than four and a half years, and are still living; the total length of history of these five patients averages almost six years:

(5) It may be stated with reasonable accuracy that, in addition to the immediate remissions which occurred constantly following splenectomy the operation prolonged life in at least twenty per cent of cases:

(6) We cannot satisfy ourselves that any particular pre-operative characteristics of the disease are indicative of favorable results following splenectomy; however in the type of case in which there is evidence of active hemolysis, the patient shows a more marked immediate improvement:

(7) Splenectomy may be recommended in pernicious anemia when, in view of all the circumstances, personal as well as medical, the possibility of the prolongation of life appeals to the family and to the patients; occasionally the operation may be performed in order to bring about an immediate remission.

In commenting on the foregoing, Moynihan states the truth is approximately this: That as a result of repeated transfusions of blood, removal of the spleen, and eradication of all foci of infection, one-quarter of the patients are greatly improved and living beyond expectation by a period of two or three years; one-half are improved in some degree; the remaining one-quarter do not receive greater help than could be derived from medical treatment, including blood transfusions, removal of foci of infection, etc.

In leukemia it is claimed by Ordway that radium applications produce the most astonishing effect in reducing the size of the spleen. As the organ diminished, the general condition of the patient improves, and the blood count approaches normal. He admits that duration of the remission may be variable—months to years—and that radium is not curative. It is believed, however, to be the safest as well as the most prompt palliative measure in chronic leukemia whether refractory or not to benzol or roentgen-ray treatment.

Splenectomy after radium treatment in myelogenous leukemia has not given satisfactory results, although the operation may be justifiable in certain cases for comfort of the patient. "A review of the cases at this time reveals no evidence that the duration of the disease is altered in any definite way by splenectomy." (Griffin). Mayo claims, however, that two patients have been cured by operation, or at least have lived many years thereafter.

Wallace reviews forty-nine cases of splenic abscess in South African natives. Nineteen patients were subjected to operation; the other thirty died outside the hospital and abscess was discovered at necropsy. Four of the patients operated upon died. If the spleen does not rupture (which is the commonest result) it continues to enlarge and becomes tympanitic. In late cases the spleen is invariably adherent to the abdominal wall and the abscess can be safely incised and drained. The abscess may attain enormous proportions. One case is reported where the operator evacuated eight pints of pus.

Herfarth gives the ultimate outcome of forty-eight operations for splenic rupture, leukemia, Banti's disease, hemolytic jaundice, pernicious anemia, etc. In one instance threatening intra-abdominal hemorrhage did not occur until the day after contusion. Splenectomy in four cases of Banti's disease was followed by recovery in three. Of seven patients operated upon for pernicious anemia, four were apparently cured. Results also good in two cases of hemolytic jaundice.

Stubenrauch, after reporting one successful case, recommends ligation of the splenic artery instead of splenectomy in certain types of blood disease. Necrosis of the spleen can be avoided if ligation is made at sufficient distance from the hilus.

#### CONCLUSIONS

(1) Despite centuries of intensive experimental and clinical study the spleen is still one of the most mysterious organs embraced within the human economy; neither its function



nor its importance to the individual can be staged with any degree of accuracy.

(2) In certain splenic lesions early differential diagnosis is fraught with difficulty there being no absolutely pathognomonic clinical signs; the importance of roentgen-ray investigation and careful study of the blood picture cannot be too strongly emphasized:

(3) In the majority of splenic lesions medical treatment is unavailing and the aid of surgery must be invoked to conserve life; splenectomy is the most appropriate procedure and if not too long delayed favorable results may be reasonably expected to accrue therefrom in suitable cases:

(4) The technique of splenectomy is comparatively simple and other things being equal should be followed by no greater primary mortality than celiotomy for other intra-abdominal pathology.

#### REFERENCES

- Bolton: Reference Handbook of the Med. Sci. vol. i, Wm. Wood & Co., N. Y.  
 Carslaw: Cited in Internat. Abstr. Surgery, 36, 328 May, 1923.  
 Crofton: Reference Handbook of the Med. Sci., vol. vi, Wm. Wood & Co., N. Y.  
 Dalsiel: Cited in Internat. Abstr. Surgery, 36, 328, May, 1923.  
 Editorial: Journal of the A. M. A., 78, 1056, April 8, 1922.  
 Fowler: Journal of the A. M. A., 78, 1566, May 20, 1922.  
 Goldstein: American Journal of Surgery, 36, 57, March, 1922.  
 Grigsby: American Journal of Surgery, 35, 339, November, 1921.  
 Haggard: Cited in Internat. Abstr. Surgery, 36, 328, May 1923.  
 Herfarth: Cited in Journal of the A. M. A., 80, 1348, May 5, 23.  
 Kettle: Cited in Internat. Abstr. Surgery, 36, May, 1923.  
 Lepehne: Cited in Journal of the A. M. A., 80, 286, January 27, 1923.  
 Lombard-Duboucher: Cited in Internat. Abstr. Surgery, 36, 234, April 1923.  
 MacCallum: Text Book of Pathology, 1917, Saunders, Philadelphia, Pa.  
 Moynihan: The Spleen, 1921, Saunders, Philadelphia, Pa.  
 Olney: Reference Handbook of the Med. Sci., vol. i, Wm. Wood & Co., N. Y.  
 Rautmann: Cited in Journal of the A. M. A., 80, 146, January 13, 1923.  
 Stubenrauch: Cited in Internat. Abstr. Surgery, 36, 433, June 1923.  
 Wallace: Cited in Journal of the A. M. A., 78, 1848, June 10, 1922.  
 Weickel: Cited in Journal of the A. M. A., 79, 336, July 22, 1922.

## THE TREATMENT OF UNUNITED FRACTURES.\*

By J. M. SALMON, Ashland.

A consideration of the normal process of repair of broken bones is an essential preliminary to the intelligent treatment of non-union. Immediately following the fracture and resultant trauma of the adjacent soft parts, brisk hemorrhage occurs and a blood clot fills the crevices between the fragments. This clot becomes organized by the formation of new blood vessels and the deposition of new bone cells bone granulation. A rapid absorption of the earthy salts in the ends of the broken bones follows (osteoporosis).

New earthy salts are now deposited between the young bone cells and the new blood vessels. (callus formation). Finally the soft callus is converted into hard bone by successive layers of earthy salts.

The process of repair is hastened if the broken ends are in close apposition; it is retarded if there be wide separation with insufficient blood supply and resulting formation of sequestra.

If the repair is delayed and extensive scar tissue forms around the ends there may be an indefinite postponement of union.

From the foregoing, the following causes of non-union may be deduced:

1. Loss of bone substance, occurring either as part of the original trauma or by operative removal of detached or partially detached fragments of bone. A gap may also result from necrosis of fragments but such necrosis is per se not commonly the cause of non-union.

2. Connective tissue intervention which effectively prevents union by intervening with the circulation and the proliferation of osteoblasts.

3. Sepsis with excessive scar tissue of bone and soft parts.

4. Blood dyscrasia, syphilis, wasting diseases, rachitis.

5. Imperfect immobilization which results frequently in pseudo-arthritis.

The prevention of non-union will be accomplished in the greater number of cases by a consideration of these possible causes and by the institution of treatment based upon the accepted pathology of bone repair. In a certain proportion of cases—happily not large—there will be definite non-union and this notwithstanding the most faithful and skillful treatment.

Mobility at the site of fracture is noted after the normal period of fixation has passed.

\*Read before the Boyd County Medical Society.

**Malarial Treatment of General Paralysis.**—Askgaard reports complete restoration of earning capacity in 32.4 per cent. of thirty-seven cases and great improvement with partial restoration in 21.6 per cent. The disease has progressed in 3 per cent. and in 6 per cent, after a transient remission. Excluding the patients who were treated mainly for the purpose of keeping the malaria strain alive, the apparently cured total 38.6 per cent. and the improved, 26 per cent., a total of 65 per cent. benefited since the malaria treatment was introduced in October, 1922.

X-ray examination will show separation or pseudo-arthritis and there will be atrophy or sclerosis of the bone ends. Usually a mass or scar tissue surrounds the fracture.

Under these circumstances it becomes necessary to decide as to the appropriate treatment, whether operative or non-operative.

If operative procedure is elected, the proper period for such operation must be determined.

As to non-operative methods, there is little to say. In delayed union, there is decided advantage in massage, percussion, congestion, injection of fibrin etc. Indeed, one or more of these measures may be employed with advantage in the treatment of all fractures.

In actual non-union, they have a very limited field of usefulness. The pathological conditions present in these cases are not ordinarily altered by other than surgical interference.

Before deciding upon any operative procedure, it is necessary to wait until all latent infection has subsided. This period is usually estimated at three months but if the original infection has been severe and prolonged, the period may be six months or longer.

During the waiting period, the limb should be massaged and the circulation improved by heat and bandaging.

Joints should be mobilized and muscular atrophy prevented by passive motion.

Extensive and adherent scars should be removed and skin grafting employed. "The longer the period of delay, and the greater trouble taken preparatory to reconstruction of bone, the greater the chance of success" (Hey-Groves).

The operative technique must be aseptic. In no other department of surgery is this more important.

Hemostasis must be complete and the post-operative immobilization efficient.

In operating upon ununited fractures, two cardinal principles must be borne in mind. First, the osteoblasts necessary for new bone formation are contained in the dense bone, therefore there must be contact of the osteogenetic layers. Second, the blood supply to these osteoblasts must be definite and sufficient without interference by scar tissue.

The type of operation to be employed will depend upon the conditions presenting. Step-cutting is useful where the resulting shortening is not a serious disadvantage, as in the humerus and forearm. Intermedullary pegs are useful where there is considerable gap and where it is difficult to maintain alignment. Such pegs should be approximately three times the length of the gap and should

be a living bone with its periosteum and subjacent dense bone.

Inlay grafts are most generally applicable and give excellent results. It is essential that the ends of the graft be maintained in firm contact with healthy, well-nourished bone.

If plates are used, they should be considered merely as internal splints and, as already stated, there must be firm apposition of healthy bone. As a general rule, plates should be avoided in the treatment of non-union.

The following case-report is submitted as illustrative of the difficulties and possibilities of the surgical treatment of ununited fractures:

J. P. M. 36, married, lumberman, on Nov. 16th, 1921, sustained a compound, comminuted fracture of both bones of the left leg, with associated fracture of the 3rd and 4th metatarsals and extensive contusion of the limb. He was crushed beneath a mass of logs and was held for over an hour in a puddle of muddy water until the logs could be removed. A large piece of the tibia was completely detached and was removed with the clothing at the first dressing. He was brought to the hospital on the following day.

The wound was cleansed and devitalized tissue (not bone) removed. The wound was filled with dichloramin-T, drained and placed upon a suspended splint.

Within forty-eight hours there was severe infection. The entire lower extremity became swollen and multiple incisions were made in the leg and thigh to relieve tension and provide drainage.

Under Carrell-Dakin irrigation, the infection was controlled. Wound healing progressed slowly. A large piece of bone became necrotic and was removed, after which the wound healed. There was non-union of the tibia. The fibular fracture united.

After waiting nearly six months for latent infection to subside, during which time the limb was systematically massaged, the question of operation was considered. At this time the radiograms showed a typical gap fracture of the tibia, with rounding and sclerosis of the bone ends. Operation. The ends of the fracture, which were surrounded by scar tissue, were sawed off squarely; osteotomy of the fibula was performed and the mortised ends drilled and held together by split pins. This permitted firm coaptation of the tibial ends.

The limb was immobilized in plaster for six weeks. The wound healed by first intention. Removal of the plaster showed non-union of the tibia. The reason for this failure was apparent from a study of the radio-



grams. The dense scar tissue of the soft parts and the sclerosis of the ends of the bone had effectually interfered with the circulation and there was no osteogenesis.

It was determined therefore to resort to the sliding inlay graft as a means of supplying osteoblasts and insuring adequate blood supply. This was done after a waiting period of three months.

A graft six inches long was removed by the twin saw and the long section slid down to bridge the gap, the short section filling the interval. Recovery from this operation was uneventful and the graft became firmly fixed.

Radiograms showed satisfactory bone formation and, in time, weight bearing was permitted.

The patient now walks without artificial support and has a shortening of a little over one inch. This is compensated by a high heel on the shoe of the affected side.

#### REFERENCES

Ernest W. Heys-Groves—"Orthopedic Surgery of Injuries"  
Scudder—Treatment of Fractures.

**Hay Fever Prophylaxis.**—We now know what hay fever is, and we know how to head it off. The patients are sensitized to certain pollens, and by a simple cutaneous test we can determine the particular pollen which is causing the trouble long before there is any of it in the air the patient breathes. Then, when the offending pollen is identified, it becomes a comparatively easy matter to build up the patient's natural resistance to it.

The extract that is required in the vast majority of late summer and early fall cases of hay fever is made from ragweed pollen, and it is being marked in small vials of graded concentrations so that prophylaxis can be begun with one or two "units" and increased by degrees up to 1000 units without any more trouble than is involved in withdrawing the dose from the vial and perhaps adding a little diluent from another vial that is supplied as part of the outfit.

**"Makes The Weak Strong".**—How nimbly and trustfully we go from one fad to another, seeking always the short and easy cut to cure and restored health. From Fletcherism to Tan-lac; from the "Key to the Calories" to Fleischmann's Yeast; from vitamins to monkey glands; from Cone to Abrams. Every day, in every way—Next!—Bulletin, Indiana State Board of Health.

## PRACTICAL CONSIDERATION OF DISEASE OF THE COLON.\*

By C. W. DOWDEN, Louisville

Habit is a dangerous thing both for the patient and the physician. Just as the patient gets in the habit of depending upon some particular purgative drug, so does the average physician get in the habit of prescribing the same treatment for constipation regardless of underlying pathology. This may be salts, mineral waters, mineral oil, casearia, magnesia, bran, or enemas, or what not. The fact remains that the real cause is not usually considered, and it is furthermore quite probable that the particular line of treatment prescribed is entirely wrong and actually aggravates the condition. Oftentimes the patient is not relieved, and frequently in desperation he submits to an operation for removal of the appendix or the gall bladder when as a matter of fact the condition is primarily in the colon. It is needless to say that such patients continue to have their symptoms after operation.

It seems proper, therefore, not so much to learn, as to freshen our memories on certain fundamental points with which we are all familiar, but largely through habit and everyday contact with such commonplace conditions we have allowed ourselves to forget.

In the first place it must be remembered that the colon (with the first small bowel) is first of all a tube whose chief function is mechanical and consists of propelling food products, fluids, and gases to and through the anus. Unlike the small bowel, the colon possesses very little absorptive power, secretes no enzymes, and consequently has little or nothing to do with furnishing nourishment for the body or aiding in the digestive function except indirectly through its mechanical failure.

It is a frequently discussed question as to whether or not there is absorption from the colon of toxic products that produce the so-called state of auto-intoxication. Headaches, sleepiness, weakness, mental habitude, fatigue, nervousness, mental depression, insomnia, anorexia, etc., occur constantly in the daily routine of every busy doctor. Probably the majority of physicians and most writers on the subject base their belief of an auto-intoxication on the fact that such symptoms as enumerated are relieved instantly when the bowels are evacuated. On the other hand, many authorities, and with these I agree, fail to comprehend how such prompt relief could be obtained if the condition were in fact one

\*Read before the Louisville Medico-Chirurgical Society.

of auto-intoxication, which presumes a systematic infection to absorption from the bowel. It is hardly conceivable if this were a toxic condition that it would be relieved as promptly as this.

It is well known that absorption from the bowel can take place only in the presence of liquid contents, since the feces begin to harden in the ascending colon, and the only place where absorption might occur would be in the cecum. The cecum is rarely the seat of chronic inflammation as occurs frequently in the distal portion of the colon. Hence, one of the necessary factors, namely a diseased mucosa, is absent.

For generations people have been taught to regard constipation as the underlying cause for most ills of the body, and to exaggerate the symptoms which they have. No convincing proof has been offered to show the relation between the symptom complex of auto-intoxication and the absorption of toxic substances from the bowels. Naturally where there is ulceration or inflammation of the mucosa extending possibly into the muscular coat there would be toxic absorption just as there would be from chronic pathology elsewhere.

If the symptoms are not toxic, but are pressure symptoms due to distension of the colon with irritation of the mucous membranes by fecal accumulation, then we must accept the theory of Alvarez that there is a metabolic gradient underlying peristalsis. Indeed this theory seems to be gaining ground among physiologists and the proofs offered by Alvarez seem quite convincing. He has shown that there is a regularly recurring rhythm of muscular activity beginning in the fundus of the stomach, and spreading over the stomach to the pyloric ring. These can frequently be seen with the fluoroscope. Distal to the pylorus these contractions begin again extending down the small bowel, becoming more intense at certain points (nodes of Keith) where it is augmented and given fresh impetus, and finally spreading over the large gut. From the stomach down waves become less frequent, but more powerful until they reach the cecum and ascending colon where fecal content is passed on about every thirty minutes by still more powerful waves. In the transverse colon he refers to a massed action, and this same phenomenon is physiologists, in which the whole content of the bowel is shifted by a powerful contraction every six hours. Finally, when the pelvic colon is reached, there is a powerful active peristalsis occurring every 12 to 48 hours and this expels the contents through the rectum and anus, and the process is styled defecation.

Contrary to the usual belief, the rectum is not a reservoir, but a vestibule, and is normally empty,—the fecal mass being physiologically restrained from its entry into the rectum by O'Byrnes' sphincter, thus constituting the recto-sigmoid apparatus. It appears, therefore, according to Alvarez, that food goes through the bowel because there is a gradation of muscular rhythmicity, irritability, and metabolism from the duodenum to the anus. In health this gradient is well marked. In disease it is often leveled and even reversed in places. He has shown in dogs that if a section of bowel is cut out, reversed end for end, and sewed back into place, it will transmit fluids, but not solids. The original gradient of muscular force remains unchanged in the reversed segment, so that this region corresponds to an up-hill stretch. Dogs with these loops live only so long as rough articles can be kept from them. They all die after a time and autopsies then show that bits of straw, bone, etc., accumulate at the upper suture until a mass is formed large enough to cause complete obstruction. This offers a valuable practical suggestion.

A man with a flabby intestinal tract or a tract with irritated narrow portions in which peristalsis is leveled or reversed should avoid food with much roughage such as is commonly prescribed. Hence, it is also that a smooth diet is useful post-operatively when suture lines or segments of bowels are still irritable. It is absolutely essential in mild intestinal obstruction, in carcinoma of the bowels, etc.

Ten years ago Alvarez studied 2000 stools from patients with gastrointestinal tract disorders. Many who complained of vague intestinal disturbances brought stools which were full of lumps and undigested material consisting mainly of cellulose. It was found that removal of the cellulose from the diet often brought relief to these people. Furthermore, when this was done less and less undigested starch could be found. Many of these people had discovered that they could get along comfortably if they would avoid raw fruits and salads and the coarser vegetables, but they usually attributed their distress to acids in the food. From these experiments it would seem therefore that while an extra amount of refuse in the diet may be helpful to some people, others cannot tolerate it.

It has been customary to divide constipation into two types,—the atonic and the spastic.—the atonics to have a rough stimulating diet and the spastics to have atropine and a smooth diet which will not add to the spasm. Although the radiologic study of constipated people practically always shows a spastic



type of colon, the rough irritant diet is almost universally prescribed. The essential thing to remember is that all cases cannot be treated alike. While the rough diet will undoubtedly relieve many patients, others will not be able to handle the large amount of indigestible material. It is true, they may perhaps get rid of the constipation but at too big a price of flatulence, etc. It is far better to begin with a smooth diet adding to it stewed fruits, fruit juices, agar, and paraffine oil. In many cases it may be easier on the digestion and better in every way to use a small chemical stimulant in the form of a cascara or aloin pill than a larger mechanical stimulant in the form of woody fibre. In others it seems a shame to upset the entire digestive tract with laxatives when the feces are down in the rectum within easy reach of a small enema.

This theory of peristalsis gradients requires more explanation to account for other symptoms. Peristalsis is under control of the vegetative nervous system, the sympathetics whose action is largely inhibitive, and the vagus which conveys motor and secreto-motor impulses to the muscle fibre and mucosa through the plexuses of Auerbach and Meissner, located respectively in the muscular wall and submucosa throughout the canal. These two systems are controlled by plexuses situated along the anterior surface of the vertebral column from the skull to the coccyx. It must be remembered that sensory nerves are not distributed to this viscus except at the anus, and possibly in the mesentery. Pain may therefore be only a late symptom of disease, while disorders of motility are quite likely to be early symptoms.

The gut is like other organs whose wall is constructed of unstriped muscle; consequently when it becomes distended with the products of digestion peristalsis sets in, the bowel contracts, and the contents are propelled onward. Should over-stimulation occur at one of Keith's nodes a tonic contraction may occur, thus preventing this onward passage, and with a consequent distension above. The tension on the mesentery and the plexus of Auerbach reflexly causes pain and even rigidity. If disease extends through the muscular coat and irritates the parietal peritoneum, pain also results. It may be seen, therefore that on this basis these motility defects may be responsible for all the subjective symptoms of which a patient may complain,—namely nausea, vomiting, diarrhea, constipation, etc. Such objective symptoms as atony, spasticity, bloating, hypo or hypermotility may also be noted.

Secretory abnormalities will of course depend upon,—first, improper innervation of

the glandular producing hypo- and hypersecretion; second, to disease of the lining of the mucous membranes, and depending upon the depth of involvement. There may be a simple irritation producing an abundance of mucus, or as in atrophy, a lack of all juices or mucus. Naturally any disturbance in the secretion of digestive juices above from the stomach, liver, and pancreas will have its effect on the bowel. Also various endocrine dyscrasias will effect the secretory function.

With such knowledge of the physiology of the bowel, and knowing how far the fecal stream should pass in a given time, it remains a comparatively simple thing to determine the motor abnormalities by use of the barium meal and fluoroscopy. Furthermore, an examination of the stool will give a fairly accurate idea as to the location of the pathology; the higher up in the intestinal tract the more intimately is mucus, blood, etc., mixed with the feces, and the less tendency of diarrhea and pain. Involvement alone of the head of the colon or cecum and ascending colon may give very little diarrhea, or only mushy stools, but when the splendid flexure, descending colon, sigmoid, and rectum become involved, the farther down and the more intense it is, the more the diarrhea.

Since it will be impossible to cover the various types of disease of the colon and also the diagnostic features of the disease in children, I shall limit my remarks largely to chronic colitis in the adult and also to review our knowledge of constipation. I should like, however, to recall the well-known fact that it is not always a simple matter in children to differentiate an acute enterocolitis from a beginning pneumonia accompanied with intestinal paresis where diarrhea has not already begun. A colitis which exists for several weeks becomes chronic and ranges from the mildest type of intestinal indigestion to ulceration or even perforation. While many cases are the direct result of an acute inflammation, there can be little doubt that the abuse of alcohol, excessive use of condiments and especially sodium chloride, use of mercurial and arsenical preparations are contributory, if not even exciting causes. Infection in the sinuses and throat or even the upper air passages may help to keep alive infections in the bowel. Various malformations, kinks and bands as well as postoperative adhesions may interfere with normal motility. Of course anal pathology such as hemorrhoids, fissure, etc., will interfere with defecation, as will frequently pelvic disease and tumors which at times partially obstruct the bowel. Parasitic infection may also be an exciting cause.

Probably in no other disease is there such a variety of symptoms. Some patients present little external evidence of disease, while others are thin, with muddy complexions, nervous, and generally sour on the world. Their memory is usually poor, and they have difficulty in remembering names and dates. It is extremely difficult to obtain an intelligent history. There is bloating and fullness of the abdomen, general soreness, flatus passage which is foul if there is proteid decomposition. Their headaches are usually occipital but dull in character. Backache and lassitude is chronic. Many have ptosis of the abdominal organs and drooped shoulders and slouch when sitting. The eyes are pale and the tongue flabby and thick. The appetite is capricious as a rule. They may or may not have diarrhea, depending upon the amount of colon involvement, or whether or not achylia is present. Some patients have a formed movement on arising in the morning followed by several loose ones accompanied by violent explosions of gas. In sigmoid and rectal involvement particularly the first stool may be mucoid and then muco-fecal. If only the small bowel or cecum is involved the feces is sticky and slimy having a smooth mirror-like surface and adhering to the toilet vessel. Constipation of the atonic type may be present. If atony exists in the splenic portion where the stool begins to take form or in the descending colon or sigmoid the stool is likely to be of a very large caliber, smooth, glistening, but the patient lacks the power to expel it, or spasticity of the descending and pelvic colon may produce constipation. The spastic colon can frequently be palpated and by Roentgen-ray it shows a smooth tube without haustra. The sigmoidoscope is introduced with great difficulty past O'Byrnes' sphincter, and this accomplished the sigmoid is often so tightly contracted that further progress is almost impossible without air inflation. In such conditions of course there is no lack of power but a blocking of the fecal pathway by hypermuscular activity. With relaxation comes an explosive flatus discharge, and the calibre of the stool is very small and perhaps twelve or fifteen inches long. When, as frequently happens, there is spasticity above and atony below, there is a conglomerate fecal movement of closely packed small masses, or perhaps the so-called scybalous stool.

There is some doubt as to whether mucous is an actual inflammatory condition; but in all probability there is a low grade of inflammation, chemical in character as the underlying cause. The symptoms range all the way from slight transient distress and tenderness

along the colon, with slight mucous discharges, to severe attacks with fever and abdominal pains and distress and with copious mucous discharges from the bowel, sometimes even as a cast of the bowel. That such conditions are frequently diagnosed appendicitis or gall bladder disease is well known, but usually examination of the stool will clarify the diagnosis. On the other hand, it frequently happens that a vesiculitis is called a colitis and indeed the two are frequently associated.

There are two forms of mucous colitis, one in which there is pain along the course of the colon with a tendency to diarrhea, and the second where there is constipation with more or less copious discharges of mucous and severe pain, amounting at times to colic.

The treatment of course must first of all be to heal the bowel and prevent further irritation. Diet is of the very greatest importance, and for the most part must be smooth and free of irritating substance. Drastic purges of all kinds usually aggravate the symptoms, although the use of castor oil is frequently followed by large discharges of mucus and consequently relief. If laxatives are necessary only the milder ones should be used and always combined with efficient antispasmodics as belladonna, sumbul, etc. Colonic irrigations are indispensable for washing out the excess of mucus, and decomposed intestinal detritus. Following this healing medicaments are indicated, and probably nothing surpasses the value of argyrol in varying strength. For thorough irrigation of the colon, the Hanes position seems best, since the outward flow of the solution is facilitated and it is brought more in intimate contact with the mucous membrane. The solution should be retained five to fifteen minutes and during this time very gentle succussion palpation practiced along the course of the colon. Where constipation persists olive oil enemas at night of 4 to 8 ounces, and allowed to remain until morning, are usually sufficient. A hypnotic will often assist the patient in retaining this. When the mucous has been cleared from the bowel various bland laxatives such as agar may be used by mouth, but a permanent cure cannot be claimed until a normal action of the bowel is established and maintained.

As to the treatment of other conditions not especially associated with mucous discharges: Ptosis of the abdominal organs is often causative and frequently produces more of a motor delay than the inflammatory states. Every case of entero-colitis in an adult of the early forties should suggest coincident malignancy. The X-ray of course should be used



to clear this point. Brights' disease, tuberculosis, and hepatic cirrhosis, etc., may have an associated colitis which obscures the true underlying condition.

#### GENERAL RULES OF TREATMENT.

Diet is of the greatest importance. Since spasticity is usually present the diet should at first be smooth. Rough and overstimulating food such as bran, shredded wheat, whole wheat, prunes, coarse vegetables and fruits should be excluded unless atony alone can be demonstrated. Even then vegetables should be finely divided. Excesses of cold iced drinks should be avoided. In all forms of constipation tea, coffee, cocoa, blackberries, blue berries, old cheese, salt meats and fish, spices, condiments, liquors, red wine and ginger ale should be avoided. If there is inflammation of the bowel plenty of rest after meals is indicated since exercise stimulates peristalsis. Protection against undue exposure seems to be successful in many cases by use of a flannel band around the abdomen. For ptosis, some of the various supporting corsets are indicated. If there is spasticity, frequently patients complain of water distressing them. Since plenty of water is necessary this can be overcome by taking hot water, or flaxseed tea is frequently comforting. This may be made palatable by adding a little sugar and lemon juice. Massage of abdomen must be practiced with great care if the bowel is inflamed.

If the patient recovers entirely laxatives of all kinds must be avoided. A very satisfactory fruit mixture has been suggested by Lyons and which I have used in my practice for over a year. This consists of figs, 1-2 pound; dates 1-2 pound; prunes, 6 or 12 stewed with their juice. This to be run through a meat grinder and 1 1-2 ounce powdered senna and 1-2 to 1 1-2 ounces of granular agar agar added and the whole mixture made into a paste. A small piece is taken with each meal, the quantity and frequency diminished and finally the senna and agar is left out entirely. Naturally, with a highly inflamed spastic bowel this mixture is not indicated.

Bile salts have a recognized antimucinase action and when taken one or two hours after meals have a decidedly beneficial effect in destroying mucus and more particularly if a cholagogue is also indicated. Mineral oil is useful in some cases but in the thin and under nourished, it is believed that by casting undigested food particles with a film of oil that digestion and assimilation is prevented. When it is used it should be taken in a single dose at night before retiring and nev-

er with food. Nerve sedatives such as bromides are often indicated since most of these invalids are very nervous. Transduodenal lavage has been used successfully employing 4 per cent sodium sulphate solution, as has also rectosigmoidal instillation of various salts and varying solutions. Direct bacterial instillation of the bacillus acidophilus has been used quite successfully also by Bassler.

No doubt many other forms of treatment have been successful but time will not permit their discussion. The prognosis is more favorable than has generally been given. Individual treatment is always necessary. Persistence and patience will frequently convert the chronic intestinal invalid into at least symptomatic cure.

Note. I have quoted freely, and in many places verbatim from articles by Lyons, Alvarey, Morgan and others, in both the Loose Leaf Systems of Medicine of Nelson and Tiee.

#### DISCUSSION.

**J. Rowan Morrison:** Dr. Dowden has covered a very large subject in his paper. We have probably all learned something, but whether it will do us any good or not is a question. We often think we have learned something new about the intestine, and then the first thing we know we find that we do not know anything about it. We sometimes start treatment in obscure gastro-intestinal affections without knowing anything about what we are doing. If we start to treat these patients by giving them rough food—which in my experience is often very harmful—when we do not know whether the condition is one of atony or spasticity, we simply increase the troubles of the patient.

When we come to consideration of mucous colitis then we have a difficult subject to discuss. I have always told my patients that there are three stages of this affection, viz., "worse, worser and wuss." I have never seen a patient with a pronounced case of mucous colitis who ever became perfectly well. In my estimation the nervous phase of these people is a most important factor. With the diet mentioned by Dr. Dowden, with fruit mixtures, etc, the patient usually gets along fairly well, but never fully recovers.

Mucous colitis is a very ancient malady. It is said in the Bible that Hezekiah had mucous colitis. He remarked "what is the use of bowels when you have no bowels." The explanation of this is that he was passing mucous casts from his rectum; which he took to be his bowels.

Dr. Dowden has given us an excellent resume of the treatment. If the patient can get rid of the accumulation of mucus by enemata or otherwise he feels better for some time. In many cases a large dose of castor oil gives considera-

ble relief. I am convinced that belladonna is an excellent intestinal remedy where we have studied the case sufficiently to know that we are dealing with spasticity. But the main thing in my opinion is that we not only have chronic mucous colitis, there is something about it connected with the nervous system. Just what this connection is we are not in position to state, but I am sure the nervous factor is important.

When it comes to the question of laxatives, we know that people take too many drugs of this class, and laxatives are prescribed unnecessarily by the doctor. The reason for this is that the majority of people, when they feel badly demand that medicine be given them. The habit has become quite general for people to take laxatives for colds. I read the report of a doctor who is in charge of a large hospital for the employees of a manufacturing plant, he says in speaking of the effect of laxatives when taken for so-called colds, that employees who took laxatives were usually absent from work for seven to nine days, whereas those who did not take laxatives were back within five days.

**Ben Carlos Frazier:** For years I have taken the position that in mucous colitis we should treat the patient without paying much attention to the disease. Freedom from worry and anxiety is an important factor in the management of mucous colitis. Women who are overworked and worried with children and family affairs are much more apt to have mucous colitis than people who are differently situated. The nervous element may not be susceptible of explanation but is one of the largest factors in the cure of this disease. There is something about the mental state or outlook that is most important in these cases.

Dr. Dowden has fully covered all the various phases of this subject. Great judgement is often required to determine whether drugs should or should not be administered in the treatment of mucous colitis and kindred ailments. Patients are largely at fault for insisting that medicines be given them. In many instances proper advice does more good than drugs. I do not believe there is a specific or anything particularly helpful in the treatment of mucous colitis. We should take care of the mental state of the individual and treat the symptoms, or at least not do anything to cause aggravation.

**Morris Flexner:** I am in thorough accord with what the essayist said about so-called auto-intoxication. Osler summarized the situation years ago when he stated that an intoxication was the harbor in which doctors drove their undiagnosed cases. The proposition is just as true now as ever before, and I think auto-intoxication alone is not a proper diagnosis for anyone to make. Of course it is true that one might classi-

fy certain chronic intestinal affections as auto-intoxication; but these disorders will usually be found in people who show postural defects which is one of the principal causes of constipation; individuals who are nervous with sallow complexion, poor appetite, etc. These are the ones usually classed as cases of auto intoxication. In the majority of these cases there is more or less visceroptosis (especially coloptosis) which acts as a cause for constipation. Within the last few years we have had a number of cases of this kind under observation, mostly in women, who have been greatly benefited by rest in the prone position with elevation of the foot of the bed and forced feeding. After they were allowed out of bed an abdominal support was used. Irregularity of habit as to time of defecation is an important cause of constipation and should be emphasized. Every individual should form the habit of defecating at a certain time each day, or twice a day as the case may be. Such an individual seldom suffers from constipation.

Another point I would like to emphasize is the importance of examining the feces of patients suspected of having disease of the gastrointestinal tract. Many more things can be learned from stool examination than we have heretofore believed. In obscure cases it is important to know the types of bacteria contained in the fecal discharges, that is to determine whether they are fermentative or putrefactive in character. In the normal feces these bacteria are about equally divided, i. e., fifty per cent each of fermentative and putrefactive organisms, while in certain types of stool it will be found the fermentative organisms are entirely absent and only the putrefactive are present. The bacterial content of the intestinal tract often furnishes an important indication for therapeutic measures.

**Granville S. Hanes:** Dr. Dowden has made a very creditable discussion this evening of an exceedingly broad and interesting subject.

The colon constitutes a most extraordinary portion of man's anatomy. It is subject to a great variety of disorders, many of which have a profound influence on the health and lives of patients, and yet the colon may be completely extirpated and the patient continue to live in comparative comfort. It seems to me that bacteria and parasites are the chief sources of trouble which occur in the large intestine.

I cannot agree with the quotation made from Olser. Where there is infection of the mucosa of the large bowel with disease and destruction of the protective cells absorption of poisonous products does take place through the granular, spongy and otherwise diseased surfaces.

It is true that patients develop constipation from vicious habits and have but little toxemia as a result. But in such cases the superficial



and protective cells of the mucosa are intact and therefore admit a minimum amount of absorption.

I have seen many patients who were complaining of headaches, rheumatic pains, with pains radiating through the entire body promptly relieved when given a large dose of castor oil. Elimination of poisonous products accumulated in the colon prevented further absorption and therefore the patient's relief. The most striking instance of rapid absorption from any part of the alimentary tract was observed in a patient who was greatly disturbed with dizziness; the stomach was thoroughly lavaged whereby there was obtained a large quantity of fermented food and mucus. Within thirty minutes the patient was almost entirely relieved of his dizziness. I have seen many patients complaining of dizziness, headaches etc., improved promptly by stomach lavage but none were so quickly relieved as was the patient in this case.

Constipation is a subject which, in many respects, is difficult to understand. The causes of this common complaint are numerous. The types of constipation which are the result of previous infections are frequent and difficult to correct. In such cases of typhoid fever, chronic diarrhoea and dysenteries the infection involves not only the mucosa but the entire thickness of the wall of the intestine and even the serosa. As the result of such infections there are adhesions, bands, veils and angulations which can not be successfully treated.

I have often wondered what effect the grave types of infection, with the consequent absorption of poison, had upon the constituents of the blood.

I feel sure that the most frequent cause of constipation is an obstruction that occurs at the terminal portion of the alimentary tract. It is due to the sensitive, hypertrophied and spastic state of the sphincter muscles. They are not only responsible for the production of a most effective obstruction at the end of the bowel but the chronic retention of the intestinal contents produces an attenuation of the wall of the bowel which in itself becomes an important factor in causing constipation.

I have heard many patients affected with constipation say that "their bowels were paralyzed," meaning that the expulsion efforts were ineffective. Upon examination it would be found that the anal muscles were so large and tightly contracted that a well formed stool could not be passed downward with sufficient force to cause relaxation and elimination. These patients must have relief so they naturally turn to laxative foods, drugs, enemata, etc., which make the fecal waste soft and more easily expelled through a contracted orifice.

I wish it were possible to easily demonstrate the evil effects of contracted anal muscles, not only in producing constipation but in causing local pains, reflexed pains, nervousness, etc. Although the percentage of cases of constipation due to spastic sphincter muscles is very large, yet almost a hundred per cent can be completely relieved if properly treated.

It has been contended for many years that intestinal waste when descended into the rectum, was lifted back into the sigmoid if not expelled when the desire for evacuation was present. This argument certainly can not be sustained by facts. There can be no reverse peristalsis in the rectum, especially sufficient to convey material from the rectum upward into the sigmoid.

In general the rectum contains dejecta almost continuously if it is thin but if the material is well formed while in the sigmoid it descends into the rectum at the regular time for evacuation and if not expelled then it remains in the rectum until another impulse for evacuation occurs.

In a normal individual the first portion of the stool has more solidity because the watery element has been more completely absorbed. The final portion of the dejecta may be quite thin because it has been brought down from higher portions of the colon and has not remained in the large bowel a sufficient length of time to give up the large amount of its watery constituents.

Prescribing correct diet is a most difficult procedure. Patients are often unable to eat foods which analyses favor and on the contrary they frequently are unable to take foods that would seem to be indicated. I feel very sure that patients are encouraged to eat vegetables and fruits when they are frequently the source of much disturbance. I am unalterably opposed to recommending coarse vegetables, raw fruits, etc., as a routine diet. We follow fads. Everybody is supposed to be able to eat spinach when the fact is some patients can take no food that could be more difficult to digest than spinach, greens, etc. This afternoon a patient in my office was complaining of a great deal of distress following a meal five hours previously. Her stomach was lavaged and the spinach she had eaten several hours previously showed no signs whatever of having been attacked by the digestive processes.

There can be no doubt that indigestion, putrefaction and fermentation of foods and bacterial infection in the upper alimentary tract are responsible for a large percentage of affections which develop in the large intestine, including the sigmoid and rectum. A short time ago a patient came to me complaining of constipation. The anal muscles were irritable, hypertrophied and tightly contracted. The ano-rectal tissues were granular and very sensitive. The mucosa

of the rectum and sigmoid were decidedly catarrhal. The patient gave a history of a long standing gastro-intestinal disturbance. I advised him to consult Dr. Dowden and his careful examination revealed a duodenal ulcer. I assured the patient that as soon as he was improved and relieved of his disturbances in the upper digestive tract the rectal condition would require but little treatment.

I wish to call your attention to the universal use of soap suds enemata. When an enema is ordered for a patient in a hospital soap suds will be given unless otherwise advised and then an excuse will be found, many times, for giving soap suds.

When the mother asks the doctor or the nurse the kind of enema for the baby it is soap suds. In fact there is one kind of enema known to the human family and that is soap suds.

Soap suds enemata are very effective in emergencies but they should be given only in specific cases. The continuous use of soap suds enemata develops an active catarrhal state in the large bowel in most patients which is often difficult to relieve. Every child who is being subjected to the frequent use of soap suds enemata is slowly but surely developing an infection which in later life will be called colitis. The patient will have developed irritable, hypertrophied sphincter anal muscles with the obstructive type of constipation and other complications that go therewith.

The last point to which I wish to refer relates to chronic diarrhoea, chronic indigestion, colitis and so on in infants and early childhood. In all such cases it signifies an implantation of bacteria into the mucosa of the large bowel. In later life the patient may be apparently free from all symptoms but at a still later period the old infection is often relighted. The patient has indigestion, catarrh of the large bowel, tight anal muscles and many complications that go therewith, all of which are difficult to relieve.

Active digestive and bacterial disturbances which occur in early life may be the source of a great deal of alimentary trouble many years later. An accurate and careful history taken of patients with alimentary disturbances in adult life can often be traced to infections that occur in infancy or early childhood.

**C. W. Dowden (closing):** I have very little to say in closing. If mucous colitis is curable, the fact remains that it requires more persever-

ance and patience than most of us have to bring about even a symptomatic cure. I agree with practically everything that has been said by Drs. Morrison and Frazier. The modern so-called refined diet is a coarse diet. When we speak of people going to the country and eating bacon, eggs, etc., as a matter of fact they are getting a smooth type of diet. Refined diet of salads and vegetables prepared in various ways leave a big residue in the intestinal canal, but this type of diet enables the patient to get rid of things that disturb his nervous system as there is very little absorption, whereas rich foods pumpkin pie, etc., are ninety-five per cent absorbed. The majority of individuals with gastro-intestinal troubles do not tolerate baked beans well. The average diet used by working people is usually looked upon as being coarse but is in reality a smooth diet and is readily absorbed.

I have such great respect for the opinions of Dr. Hanes that I am not going to contradict anything that he has said; but any systematic or constitutional condition that depends on infection and that can be relieved in thirty minutes or even an hour is an infection of which I have no knowledge. Any man who is constipated, has headache, backache, abdominal pain, etc., and is relieved shortly after taking a dose of castor oil, —I do not believe that man has auto-intoxication or absorption, otherwise he would not be relieved in this short time. What systematic infection is there in which the patient gets relief within thirty minutes after the evacuation of the intestinal contents? I do not see how that can be true.

I am sorry more was not said in the discussion about the work of Alvarez, which offers a better explanation for many of these symptoms than we have ever had before.

---

**Elks Aid Underprivileged Children.**—We are informed that a complete survey of crippled children in the State of New York is about to be made by the Benevolent and Protective Order of Elks and that a state committee has been appointed for the purpose. Practically all of the lodges in the State have already set aside the first Monday in August of each year for the entertainment of crippled children.

In Poughkeepsie the lodge of Elks has recently purchased a farm outside that city as a permanent site for a health camp for the undernourished children in Dutchess County. In order to secure the necessary funds properly to equip and maintain the camp the lodge staged a large indoor circus and realized over \$6,000.

In Lyons, N. Y., the Elks voted an appropriation to purchase apparatus for 47 of the pupils attending the public school who were suffering from curvature of the spine and other afflictions. This is only one of the many charitable activities of the Lyons lodge.



## GALL-STONE ILEUS.\*

By FRED W. RANKIN, Lexington, M. D., F.  
A. C. S. and A. M. McKEITHEN, M. D.,  
Louisville.

Intestinal obstruction, due to a blocking of the lumen of the bowel by abnormal contents, is more often caused by impacted gall stones than any other foreign body. Swallowed objects very rarely occlude the lumen of the bowel, although it is a not infrequent occurrence to find an obstruction developing because of fecolith or enterolith. While gall stone ileus is looked upon as of relatively infrequent occurrence, it is in reality, becoming more readily recognized or at least suspected as a diagnosis in certain cases of ileus which have a syndrome of acute obstruction engrafted upon recurrent attacks of a character simulating gall bladder trouble.

Murphy (1) in 1910 reviewed the literature of this subject and divided it into two distinct periods, first preceding 1890 at which time Courvoisier wrote his article on the subject and secondly the period following 1890. Various observers more recently have put the frequency or occurrence of this form of obstruction in relation to the occurrence from other etiological factors in proportion as one to fifteen (Fitz); or one to forty-five (Barnard). It is interesting to know however, that in many of the large clinics and hospitals of this country, where hundreds of cases of obstruction have been treated, no report of such an etiological factor is obtained. Osler (2) collected twenty-three cases from the literature in eight years. Courvoisier (3) collected one-hundred and thirty-one cases and it was found that not only were females affected more frequently than males in a portion of four to one, but that the average age was between fifty and sixty years. This is as would be expected, because it is a definitely established fact that females are much more frequently sufferers from gall bladder ailments, and the average age of gall bladder trouble is from forty to sixty years. Frank Martin (4) of Baltimore reported the largest series of successfully operated cases in the hands of one surgeon, in May 1912. At this time he had operated upon three cases of gall-stone ileus with no mortality. The mortality among various surgeons however has been reported as about fifty per cent.

The avenue of entrance of the gall stones into the intestinal tract is of interest. It occurs mainly in two ways. Fistulous openings may develop between the gall bladder and an adherent viscus either as a result of

inflammatory disease of the gall bladder and a subsequent fastening onto a neighboring organ with perforation, or the inflammation may begin in the bowel itself, with secondary adhesion to the gall bladder. Not infrequently does one encounter a fistula between the duodenum and the gall bladder which has resulted from a primary infection of the duodenum from an ulcer becoming adherent to the gall bladder wall and producing an artificial opening. In this type of case the stones are discharged into the upper intestinal tract. Occasionally the fistula forms between the gall bladder and the colon and in this instance, the gall stones of course pass into the large bowel, are passed *per vias naturales* and cause little or no disturbance. Instances are on record however of fistulas between the ileum or the jejunum, as well as the duodenum and the gall bladder. The second way in which gall stones may be ex-



Gall stone 6.9 x 8.5 cm. in circumference impacted at ileo caecal valve and causing complete intestinal obstruction.

truded into the lumen of the small bowel is by direct entrance through the common duct. This naturally is a suppurative process which results in the destruction of the tissues at the ampulla of Vater with a subsequent discharge of the gall stone causing the irritation. Common ducts, which are the site of gall stones over a long period of time tolerate them readily until infection takes place with a spreading cholangitis. The common duct dilates and the gall stone itself unquestionably increases in size from time to time. Recently we have operated upon a case, removing a gall stone the size of a hen's egg which had been arrested at the ampulla of Vater for many months, according to the history. The patient had been chronically jaundiced for more than a year and above this gall stone, the common duct was dilated so that its diameter was more than one inch, even after the bile distention had been evacuated. The

\*Read before the Jefferson County Medical Society.  
From the Surgical Department of University of Louisville.

gall stone in this particular case was larger in diameter than the stone which was causing the intestinal trouble in the case here appended.

Morgagni (5) has reported a case in which the common duct was dilated to the size of the stomach and filled with stones. Elsner's (6) case is another interesting one which shows the conditions which may result from perforated gall bladders. He reported a post-mortem which showed a fistulous tract from the gall bladder to a perinephritic abscess, in which was found a gall stone. Several cases have been compiled by Courvoisier and Baroud (7) where stones have been passed from the urinary bladder. This interesting complication is unquestionably due to a double fistula, the stones having been first passed into the upper part of the intestinal tract and a secondary fistula being formed by either the colon, or more likely the small bowel, with a resulting communication into the urinary bladder. After escape into the intestinal tract the stone may become impacted in almost any portion, although the great majority of them are found lodged in the lower ileum. The lumen of the small bowel becomes narrower from above downward and for this reason most stones that produce ileus, are impacted near the iliocecal coil.

An analysis of fifty-two cases by Courvoisier showed that in forty cases, the site of impaction was either the ileum or the ileocecal valve and that in only seven of these cases was the stone impacted at the juncture of the large and small bowel. The finding of a faceted stone at operation should make one suspect that other stones are present, although obviously many small stones passing from the gall bladder into the intestinal canal and passed without further symptoms. The mechanical presence of a stone is however the main feature in the production of obstruction, which is usually without strangulation, being simply a mechanical blockage of the fecal current. It is of the obturation type of mechanical ileus.

#### SYMPTOMS.

The symptoms are the same as those of acute intestinal obstruction from other mechanical causes: pain, nausea, vomiting, constipation and perhaps slight distention in the earlier stages. Many of the cases will give a history of gall stone colic; many more will give a history of indigestion, while from a few a history of jaundice may be obtained. Usually there will be a history of several obstructive attacks which have passed off but the nature of which was of equal intensity to the one now present. The onset of obstruct-

ive symptoms is usually gradual and often a rather indefinite history is obtained. When the stone becomes arrested in its progress downward there is severe colic pain with nausea and vomiting. After the spasm relaxes the obstruction is temporarily relieved and there is cessation of symptoms only to recur when the stone becomes impacted further along into the intestinal canal. Pain frequently is localized around the umbilicus. Vomiting comes early and is a frequent and persistent symptom as long as the obstruction is complete, but not becoming stercoraceous until the latter stages. The higher the blockage, the more severe the symptoms of pain and vomiting and the earlier the advent of pain and vomiting and the toxic stage. The obstruction of the fecal current is absolute. The gas and feces in the lower bowel distal to the obstruction may be passed spontaneously or by the aid of enemas. It is this fact which is often responsible for the fatal mistake of delaying operation too long because, by the aid of an enema, a small stool is sometimes obtained which is merely the content of the lower bowel. After fermentation of the intestinal content has taken place meteorism results but it is a comparatively late sign. Because the obstruction is usually in the small bowel, intestinal patterns and visible peristaltic waves are present in less than one-half the cases. This is another unfortunate factor which frequently gives rise to delay in intervention. The gurgle of gas may be heard when the ear or stethoscope is applied to the abdomen, and may be a valuable aid in differentiating a paralytic from a mechanical ileus. The so-called "silent abdomen" has been called attention to frequently as a most unfavorable prognostic sign. Rarely can a mass be palpated and rarely will one find any muscle rigidity and tenderness associated with the condition unless there has been a perforation with a resulting peritonitis. The temperature is not elevated and the leucocyte count is low. The toxic state progresses with great rapidity unless the obstruction is relieved and especially is this true of the obstructions high in the small bowel. The nearer the duodenum the obstruction occurs, the more marked the symptomatology and more unfavorable the prognosis. Sometimes shock and collapse with marked depression of all vital activities rapidly appear in the unrelieved cases and are indicative of acute toxic absorption.

#### TREATMENT.

The treatment is surgical and the condition demands emergency measures but the surgical procedure undertaken must be determined by the general condition of the pa-



tient. If the diagnosis is made early and the toxic state is not profound upon admission to the hospital, it is feasible to remove the gall stone obstructing the lumen but if the condition has been of some duration, frequently a palliative procedure is best employed, hoping to make a secondary more radical operation. Any operation in the face of a complete obstruction is a most hazardous one and particularly if the obstruction is in the small bowel. For this reason, we believe it seems important that each case of this nature should have an enterostomy made at the time of operation with an immediate aspiration of the contents of the distended small bowel. This may be accomplished through a Paxl's tube and the lumen of the bowel resutured after drainage or it may be done by making an enterostomy after the Witzel method and opening it immediately upon completion of the operation. This drainage is a most important step and frequently is a determining factor between recovery and mortality. Resection of the obstructed piece of bowel which is necessitated by gangrene at the site of obstruction or thrombosis of the mesentery is rarely to be attempted. The mortality is almost prohibitive. Should the removal of the stone be deemed feasible, it is best accomplished by a longitudinal incision into the lumen of the bowel and with a subsequent transverse suturing of the opening.

Pybus (8) reported a case with obstruction in which a faceted stone was found and removed from the lower ileum and in fourteen days, symptoms of obstruction were noted which were attributed to a leakage at the suture line. Autopsy revealed however two stones impacted in the ileum a few feet apart with perforation of the intestine at each place. This case should call attention to the fact that if a faceted stone is found, search should be made for any companions.

Except in the face of an accompanying peritonitis, drainage should not be instituted. The post-operative care of these patients consists in strenuously combating the toxemia which has arisen as the result of the ileus, and drainage of a loop of bowel, together with administration of abundant quantities of fluids, as these are the chief factors toward a successful outcome. Early operation of course is the most potent factor in saving the life of obstructed individuals and the prognosis is in direct proportion to the degree of toxicity and the time interval after the appearance of symptoms. Martin states that in fifty per cent of cases after long standing obstructive symptoms have been present, the stones pass on in a natural way. The remain-

der, if not relieved, generally produce perforation and peritonitis.

The appended case came into the Louisville City Hospital on March 6th, 1923.

Case Report, Mrs. G. R. a widow, age 62 yrs.

Admitted complaining of abdominal pain, nausea, vomiting, inability to move bowels and abdominal distention. Her family history and past history are unimportant except for the gastro-intestinal tract. During the past year and one-half the patient has had four attacks of acute upper abdominal pain associated with nausea, vomiting and constipation, and in each instance the condition was diagnosed "acute indigestion." All attacks were identical and the symptoms subsided in from one to three days. During the past four years the patient has suffered from belching and epigastric discomfort after meals. There seems to be no food distress however. There has never been any history of jaundice.

Present Illness. Six days ago patient was seized with an acute attack of pain on the right side of abdomen and localized at first. A purgative was taken, the bowels did not move and since then various purgatives and enemas have been used with only slight result. The patient has been having severe and constant pain over the entire abdomen but it has been most marked in the right lower quadrant. Nausea and vomiting have persisted since the onset, the vomitus being green at first and later changing to brown in color and of a foul odor.

Physical Examination. An elderly woman, moderately well developed and well nourished. Facial expression anxious. Tongue heavily coated and greenish brown. Breath foul. Sclera clear.

Heart and lungs are negative. There is marked abdominal distention. Peristaltic waves and intestinal patterns are plainly visible. There is tenderness and some muscle rigidity in the lower right quadrant. On deep palpation there is a sense of fullness and a distinct "doughy" feel to the right of the umbilicus. Vaginal and rectal examinations were negative.

Temperature 99.6 F. Pulse 92. Respiration 18. White Blood count—19,000. Urine was negative.

A diagnosis of intestinal obstruction from mechanical cause was made and immediate operation advised. Although the symptoms had persisted for six days, operation was refused until seventeen hours after admission, when the patient was practically in a moribund condition.

Operation. Under local and light gas anaesthesia a right rectus incision was made

and several ounces of a cloudy straw colored fluid escaped. Distended small bowel presented itself but on account of patient's critical condition, exploration was deemed unwise. The first distended loop of small intestine presenting was used to make an enterostomy after the Witzel method and the abdomen was closed rapidly. The patient's condition grew steadily worse and she died in twenty hours.

At autopsy the cause of the obstruction was found to be a gall stone which was impacted in the ileum 19 cm. from the ileo-caecal valve. The mode of entrance of this stone into the intestinal tract was demonstrated to be a cholecyst-duodenal fistula 15 mm. in diameter.

#### BIBLIOGRAPHY.

- (1) Murphy. *III Medical Journal*, 1910.
- (2) Osler. *Principles and Practice of Medicine*, Eighth Edition, p. 541.
- (3) Courvoisier. *Beitrage zur Pathologie chirurgie der Gagenwegen*, Leipzig, 1890.
- (4) Frank Martin, *Annals of Surgery*, May 1912.
- (5) Morgani, *German Clinic*, Neusser of Vienna.
- (6) Elsner. *Medical News*, February 5th, 1898.
- (7) Baggoud. Quoted by Frank Martin.
- (8) Pybus. *The Lancet*, October 14th, 1922.

#### DISCUSSION.

**V. E. Simpson:** The practice of medicine will always be largely an art, the success of any particular procedure being determined by the ripened judgement of the man who is at the bedside or at the operating table. So I think it is true that whether the gall bladder should be drained or removed is to be determined by the surgeon at the time of operation.

I do think however that routinely doing a cholecystectomy in every case subjected to surgical intervention for gall bladder disease, is radically wrong; just as routine procedure for any sort of work will be radically wrong for the patient.

Judging from the literature one is constrained to conclude that surgeons are inclining to radicalism in handling diseases of the gall bladder. Cholecystectomy is becoming too commonly the routine in their management of patients with real or apparent gall bladder disease.

The fundamental fact that the gall bladder is not in a class by itself having no reparative power is apparently overlooked. Conservatism in dealing with this organ will as often pay "pay dirt" here as with other structures. Drainage will permit restoration to functional activity as it will elsewhere.

Why not give it a chance?

A percentage of cholecystectomies, too large to be ignored, fall into the hands of the internist after the surgeon has done his work. Perhaps that explains why the internist is inclined to conservatism in the management of gall bladder diseases. The patient sought relief from digestive disturbances and the upper right quadrant; he submits to an operation assured that his gall bladder is the offender and with its removal restoration to health will follow: disappointed, he consults the internist with an array of symptoms identical with and as formidable as those he carried to the operating room. He is now in a worse condition than when he first saw the surgeon for he has had added to his physical ailments a mental state born of disappointment which often forms the background of a definite psychosis.

Why did he not get relief? Let me briefly present three things, any one or more of which may be explanatory.

First, all the pathology may not be confined to the gall bladder. I am inclined to think that it is rather the exception when it is. The liver is often diseased, either primarily, coincidently or secondarily to the cholecystitis. The pancreas, likewise, may become diseased in consequence of the biliary tract involvement or it may be attacked concurrently. When either or both of these things occur the mere removal of the gall bladder will certainly not affect a cure or even relief.

Second, in some of the cases the trouble comes from the distension of the common duct. An artificial gall bladder is thus formed and not intended by nature for this purpose, symptoms appear; a sense of fullness, tenderness, and a train of digestive symptoms follow often paralleling the original complaint.

Third, so long as the sphincter of Oddi holds the picture just outlined obtains, but not all of them retain their tone and then an annoying diarrhoea appears. This is often persistent and is difficult, even impossible of relief. This is no insignificant thing. I have seen it amount to a semi-invalidism, the wage earner is weakened by the too rapid transit of food through the digestive canal; the business man may find it annoying in his engagements and the society woman is driven to seclusion by its insistence.

Let me plead for more conservatism. Do more surgical drainage and fewer removals. Do not be in such great haste to have the wound closed. Keep it draining as long as bacteriological study warrants. Do this and internists will be less annoyed with the flotsam and the jetsam of errors of surgical judgement and what is of more importance the patient may be spared a semi-invalidism.



## ENDOGENOUS URIC ACID IN CONDITIONS OTHER THAN GOUT AND NEPHRITIS.\*

By J. D. ALLEN, Louisville.

In March of this year 1922, I was asked to do a urinalysis, blood count and blood chemistry on a man who had a hypertension. The urine disclosed nothing abnormal, the blood count was normal with the exception of a slight leucocytosis of 12,000 with a polymorphonuclear count of 76 per cent. The blood chemistry was as follows: Non-protein nitrogen 28 mgms. per 100 cc. urea 13 mgms. creatine 1.3 mgms., sugar .9 per cent, uric acid 3.8 mgms. This patient evidently had no impairment of the kidneys and no nitrogen retention, with the exception of a slight increase in uric acid. His blood count suggested a pyogenic infection. His tonsils were removed. Six weeks later his blood pressure was normal, his urine was normal, his blood count was 8,200, with a differential count of 70 per cent polymorphonuclear cells, his blood chemistry was practically the same as before with the exception of the uric acid which was 1.6 instead of 3.8 mgms. per 100 cc.

What was the significance of the uric acid increase and decrease. This patient was on a practically purin free diet at the time of both determinations, having been dieted because of his hypertension, so the uric acid increase was not exogenous and it was evidently not a retention, the result of an impaired kidney, and its decrease was not the result of an excessive elimination as this patient had been given none of the uric acid solvents. Its increase was evidently endogenous, the result of excessive catabolism and its decrease was evidently the result of the tonsilectomy.

A review of the literature on blood chemistry discloses two diagnostic facts in regard to excessive blood uric acid, that an increase of blood uric acid when accompanied by clinical symptoms means either gout or interstitial nephritis and that in the absence of the clinical symptoms of these two conditions, an excess has no special significance, except in conditions where we have a marked leucocytosis and a blood chemistry is not needed for diagnosis, such as resolving pneumonias, the leukemias, and following X-ray, radium therapy, etc.

In support of the fact that in the absence of clinical symptoms a high blood uric acid does not necessarily mean gout or nephritis, Meyers reports a series of miscellaneous cases,

some of which showed a uric acid retention of as high as 6 mgms. per 100 cc. without symptoms of either gout or nephritis. A case of gastric ulcer showed 5 mgms. a case of duodenal ulcer showed 5.5 mgms. a case of gastritis showed 5 mgms. a case of multiple arthritis showed 4.3 mgms. per 100 cc. In such cases he attaches no special significance to the high uric acid content of the blood other than to say that such finds are most likely forerunners of interstitial nephritis. In other words, excessive blood uric acid in the absence of gout and nephritis has been given very little consideration.

The uric acid of the blood is both exogenous and endogenous, the former derived from the food intake, the latter from cell metabolism. In either event it is derived from the destruction or disintegration of cell nuclei and those cells rich in nucleolus such as the leucocytes and glandular epithelium, furnish the larger amount of uric acid. So an excess of blood uric acid in conditions other than gout and nephritis can be accounted for either by a digestion of those foods rich in nucleolus or by an increased cell catabolism.

It is interesting to note that the products of metabolism, namely, urea, uric acid and creatinine, each have a different threshold of elimination by the kidney, and their relative retention gives us a wonderful insight into kidney impairment. Uric acid is eliminated with the greatest difficulty, therefore it is one of the first products to be retained, when there is any kidney impairment, and this in a measure explains its high content in the blood in interstitial nephritis. The excess of uric acid in the blood of gouty patients, has been established as a fact, but its presence has not been satisfactorily explained, other than the fact that its excess is not entirely due to a retention, an excess of blood uric acid in conditions other than gout and nephritis has not been satisfactorily explained, nor has its presence been given very much consideration, beyond that of general metabolism.

Blood chemistry has developed so rapidly that we have not taken time to correlate the facts. Our attention has been centered upon those findings which upon their face value offer the most from a diagnostic and prognostic standpoint, consequently a blood analysis in which the products of metabolism fall within the maximal normal limits and offers nothing of known importance in diagnosis and prognosis and shows no marked kidney impairment, has been given very little consideration. We have been interested in the elimination of the products of metabolism, for this phase has offered the most from a diagnostic and prognostic standpoint.

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, Ky., September 18, 19, 20, 1923.

We have not considered the fact that perhaps with a normal elimination of these products, an excess in the blood might be due to an abnormal production and that this abnormal production might precede a kidney impairment, and a subsequent retention. When exogenous uric acid is excluded and a normal kidney precluded any retention, a high blood uric acid necessarily means that from some cause we have going on in the body an increased cell catabolism, an abnormal destruction or disintegration of cell nuclei. It means that we have an excessive production instead of an excessive retention of a normal production.

We have long since known that acute infections, accompanied by rapid cellular disintegration result in an increased blood uric acid, and the explanation is that a normal kidney can eliminate a more or less limited amount of uric acid, and whenever there is an excessive production there necessarily is a retention, or an abnormal accumulation in the blood. A prolonged chronic process, in which there is going on a gradual cell disintegration, resulting in a gradual accumulation of uric acid in the blood, will produce the same picture as an acute process. In foci of infections, we have such conditions.

Most authorities state that normal blood uric acid varies between 1-3.5 mgms. per 100 cc. Unfortunately no sharp line of demarkation can be drawn between normal and abnormal figures. Such figures are compiled from a series of apparently normal individuals. Most of the work on blood chemistry has been done by men connected with hospitals and the material used has been hospital patients, consequently they are not dealing with normal individuals. The majority of hospital cases unquestionably have an increased catabolism and statistics compiled from this class of cases are not going to show a correct ratio between normal and abnormal blood findings. When we consider that uric acid, excluding exogenous uric acid, is a product of catabolism, it is hard to conceive how one individual can have three times as much uric acid as another and both be normal. Therefore, it appears to me that 3 mgms. uric acid is an abnormal finding, and when found in such amounts, has some pathologic and diagnostic importance.

Infections whether producing pus or not are accompanied by some cellular disintegration and whether located in the appendix, the gall bladder, the teeth or the tonsils, give rise to a nuclear degeneration of the protolytic type from the nuclei of the disintegrated cells, the end product of which is uric acid.

Therefore an abnormal endogenous uric

acid means infection which if recognized and removed will cause the uric acid to return to normal.

1. A case of multiple arthritis showed a blood uric acid of 4 mgms. per 100 cc. with a normal urine and normal blood urea, and a blood count of 9,000 with a polymorphonuclear count of 71 per cent. A tooth which had been crowned for 20 years, was extracted, with a marked improvement in clinical symptoms, and a drop in his blood uric acid from 4 to 2.2 mgms.

Case 2. A case of recurrent iritis showed a blood uric acid of 3.2 mgms. with a normal urine. Normal urea, a blood count of 9,800 with 72 per cent polymorphonuclear cells. Two teeth were extracted, a subsequent blood analysis showed his urine acid to be 1.8 mgms. instead of 3.2 mgm. per 100 cc.

Case 3. A case of chronic tonsilitis, with the usual so-called rheumatoid symptoms showed a normal urine, normal blood urea, a blood count of 7,800, with a polymorphonuclear count of 6.8 per cent and uric acid of 3 mgms. Tonsils removed. Subsequent analysis showed his uric acid to be 1.4 mgm. instead of 3 mgms. per 100 cc.

In all I have investigated nine cases, and the conclusions are that a blood uric acid of 3 mgms. or more, excluding those recognized conditions in which we find an abnormally high uric acid content of the blood does not necessarily mean a damaged kidney, but on the other hand is a reliable index to a focus of infection, much more reliable than a blood count, and enables us to determine whether or not recognized fact, are causing an increased catabolism, with the liberation of the secondary toxic products, which most likely are the forerunners of hypertension and subsequent nephritis.

## DISCUSSION

W. F. Boggess, Louisville: I enjoyed Dr. Allen's paper. I arise simply to correct what might be a misapprehension of his paper. There isn't a day that goes by that any general practitioner doesn't have patients come into his office and say, "Doctor, I am suffering from uric acid. My doctor said I was suffering from uric acid as a disease." Uric acid is not a disease. Uric acid is harmless in itself. Uric acid is a symptom like fever is a symptom, like pain is a symptom. Whenever you get faulty metabolism, whether from focal infections, whether from disturbances of cells, destruction of cells, whenever you get faulty metabolism from putting into the old furnace a great deal more fuel than can be consumed and your fire box is filling up with clinkers and your flues are filling up with soot, whenever you get faulty metabolism from



a lack of physical exercise, failing to take, according to Brady, from two to ten miles of oxygen on the hoof vigorously, whenever you get patients who fail to follow that instruction, remember that we will have a legless race in the next generation because we have no use for the legs other than to work the pedals of a machine, and until you get your patients eating less, eating more properly, taking more physical exercise, you are going to have all kinds of faulty metabolism. It is a long difficult chemical process to take a biscuit and piece of beefsteak and convert it into your own brawn and energy, and any disturbance of this intermediary metabolism, whether from infection, whether from overloading, whether from a lack of exercise or what-not, is going to produce toxic materials. It is a result of faulty living and focal infections and things of that kind. (Applause).

**J. D. Allen: (In Closing):** I haven't anything special to say in closing the discussion other than the paper was not intended to convey the impression that uric acid was the cause; it is simply a symptom which in conjunction with the other symptoms enables us to make the diagnosis.

**Bilirubin Determination In Cholecystitis Without Jaundice:** The report made by J. C. Friedman and David C. Straus, Chicago (Journal A. M. A., April 19, 1924), is based on a study of twenty-nine cases of cholecystitis, either proved beyond question. Twenty-two of the cases, or 62 per cent of the twenty-nine, were proved by operation; the other seven cases, or 38 per cent presented what seemed to be unassailable clinical and roentgenological evidence. The authors employed two laboratory tests for hyperbilirubinemia, the Van den Bergh and the Fouchet, in order to determine whether the Fouchet method could not be used instead of the more complicated Van den Bergh method. The Fouchet test was positive twenty-eight times; negative nine times and doubtful once. One or the other, or both direct and indirect Van den Bergh tests, were positive twenty times, negative fifteen times, and doubtful three times. In other words, the Fouchet test was positive in 74 per cent, whereas the Van der Bergh was positive in only 53 per cent, i. e., 21 per cent less often. It seems probable that, if examined during the attack, more than 90 per cent of cases of cholecystitis without evident jaundice show hyperbilirubinemia. Hyperbilirubinemia was found in 83 per cent of cholecystitis cases, being present in 93 per cent of cases during the attack, and 73 per cent of cases during the interval, the latter being defined as the condition when gastric symptoms are present but not pain.

## SURGERY OF THE PROSTATE.\*

By OWSLEY GRANT, Louisville.

A few years ago a paper entitled "Surgery Of The Prostrate" might have been a very modest one and at the same time a very complete one. Today one bearing that title must either be very complete or very cursory, and indeed one can scarce hope to give anything but an epitome of present day views in the allotted time.

The endeavor of this resume of prostatic surgery is to point out that a great many of the complications that follow prostatectomy are avoidable by the proper pre-operative and operative treatment.

First: That the effort of the urological surgeon should be directed toward surgical repair of the structures operated on in such a manner that their functional result will approximate the normal as nearly as possible.

Second: That no one type of operation can effect the complete structural repair in the many different types of prostatic obstruction.

Third: That there are minor procedures through the urethra which effect more complete cures than prostatectomy in certain selected cases.

Fourth: That selection of cases is paramount, many prostatitis being unsuitable for any operation.

Fifth: The importance of proper preparation of those cases amenable to surgery.

Sixth: The great value of the information gained by cystoscopic study of the obstructing prostate wherever possible, to determine the type of operation most suited to accomplish satisfactory structural repair in the different types of cases.

Seventh: Brief discussion of the different types of operation.

Eighth: The treatment of malignant prostate.

The symptoms for the relief of which patients suffering from prostatic obstruction come, briefly enumerated, are frequent, difficult urination, and alteration of the stream. Concomitant symptoms, usually depending on complications, are painful urination, hematuria, foul urine, and pains in the back, legs and perineum.

We should aid first to diagnose prostatic obstruction in general and then determine its pathology and form before deciding on the proper procedure for its relief. While the symptoms are few and constant, the pathology is variegated, and the methods for its relief multiple. Surely the day has passed

\*Read before the Kentucky State Medical Association, Crab Orchard Spring, September 18, 19, 20, 1923.

when any surgeon shall say that all forms of prostatic obstruction are best relieved by any one type of operation. In earlier days controversies arose between the suprapubic and the perineal prostatectomist, the members of each school adhering to its particular tenets with the tenacity of the old "dyed in the wool" politicians to their particular party, unable to see any virtue in the other's offerings. The advocates of each type have learned by experience that neither route is a panacea for all conditions and the two methods have woven themselves together now so that the skillful urologist has perfected himself in both methods in order to avail himself of that one which best suits the requirements of the individual case which presents.

It must be emphasized as well that the two major operations are not the only available methods that afford relief, but that in selected cases there are minor procedures, such as the punch operation, the incision of a tight orifice by the high frequency current, or a removal of the V-shaped portion of the tight sphincter, which serve their purpose equally well.

The fact that most cases which have unsatisfactory functional results are not seen by the surgeon following their dismissal from the hospital is the cause for the smiling complacency and self satisfied assurance of him who prides himself on curing all cases of prostatism by some single favorite procedure. These are the cases in which the promise given by the surgeon "you will be all right in a month or six weeks" is not fulfilled, and they then seek the urologist. No disease requires more painstaking and expert diagnosis than Prostatism, and without the most careful judgment a large proportion will be little benefitted by any one dogmatic procedure.

Many of the unfortunate results following prostatectomy are not attributed to the inability of the operator, but to his improper choice of operation. What we are seeking in the relief of prostatic obstruction is to restore the patient to as near normal function as possible, and the method best calculated to produce this effect after a careful study of the presenting pathology is the one to be selected.

Granted then that there is no single royal road to relief, let us consider what are the indications for each. Not all prostaties presenting themselves for relief are fit subjects for major surgical procedure. Considering those with malignancy and those with slight prostatic involvement, one half of these will

not be benefitted by major surgery. Operative mortality has fallen so rapidly in recent years that it has almost reached a point now where it need no longer be considered. In the hands of experienced urologists, able and willing to give sufficient time to study of individual cases, the mortality is less than three per cent, and this has been brought about solely by the proper selection of cases and the employment of proper methods of treatment. Relegate to the surgical ash heap the cystoscope, the study of blood chemistry and the determination of renal function, arbitrarily say we shall have but one method of prostatectomy, be that method what it may, and we shall immediately relapse to that chaos when we sprang — of mortality of forty per cent, recurring obstruction with breaking open of the suprapubic wound, keeping the patient bathed in his own secretion, and penileums squirting streams like a garden spray.

The decrease in mortality is due chiefly to two things; first, the proper selection of cases, the second, the recognition of malignancy. The first consideration of any prostatic should be: what is the condition of his kidneys, his bladder, his heart and his alimentary canal? The prostatic with much residual urine, or even with a small contracted bladder which has been straining its utmost against obstruction, invariably presents greater or less renal derangement. Immediate surgery on these men is little short of criminal negligence. The excretion of phenolphthalein, together with the amount of urine secreted and its specific gravity, forms a very accurate guide to the state of the kidneys and the amount of secreting kidney substance, while the determination of urea, non-protein nitrogen and creatinin retained in the blood estimates the ability of the kidneys to excrete the toxic products of the body. It is necessary to perform these tests on every case of Prostatism, because no surgeon's eye nor hand is sufficiently keen to supplant these laboratory tests, nor to perceive the conditions of metabolism occurring beneath the skin. Each of these tests should not only be made carefully, but repeated, because laboratories are not infallible, and likewise some unrecognized condition of an ill man may enable him to secrete less on one day than on another. The study of the heart and alimentary canal may well be left to the clinician's perceptive senses. So important do we consider the study of these functions that where there is the slightest doubt of the patient's renal condition we wait until these tests indicate a condition closely approaching normal before even the cystoscope is employed; and I may confess that this conclusion has



not been reached without some unpleasant lessons at the hands of Experience.

We may then presume that the patient's general condition is brought to that approaching normal, and that the pathological conditions which stimulate prostatism, as stricture, prostatic abscess and tabes, have been ruled out. We have shown elsewhere that only a small per cent of prostates causing obstruction can be recognized by the palpating finger in the rectum. The most valuable information gained from this procedure is probably the determination of those cases of prostatism due to definite malignancy. The true malignancy of the prostate almost invariably begins in the posterior lobe, that portion most easily felt and recognized by the finger in the rectum, while true adenomatous changes begin in the lateral and median lobes and extend along the line of least resistance, that is into the bladder, where they are less easily accessible to palpation.

When the residual urine has been relieved by gradual decompression and the patient's general condition improved the cystoscope is employed. Not every case admits of cystoscopic examination, but the information gained from those that do, which fortunately is the great majority is of much help in determining future procedure that it should be employed whenever possible. The cystoscopic study reveals first the condition of the bladder, detects the presence of stones—many of which fail to show by the X-ray—and visualizes other not uncommon complications of Prostatism, viz, diverticula and tumors of the bladder. Either of these complications found previous to operation may change the entire course of operative procedure, and the neglect of their investigation causes many of the unsatisfactory results of prostatectomy. The cystoscopic study allows the urologist to see a definite picture of the prostate directly. He can say with accuracy which or how many lobes are involved, whether the enlargement be intravesical or intraurethral, what is the condition of the vesical orifice, whether the prostate appears malignant or not, and consequently puts him in a position to say definitely what type of operation is best suited to its removal, even showing many times that some minor procedure will answer better than a major, and thus sparing the patient an uncomfortable convalescence or even an incomplete cure. In those cases where cystoscopy is impossible or contra indicated, this information can only be certainly arrived at by suprapubic cystotomy, and even the hand and the eye are less keen in a dark and collapsed bladder than in the distended one illuminated in every por-

tion and the picture of each section magnified by the cystoscopic lens.

Many cases of obstructing prostate show only a very small hard fibrous ring about the sphincter, which is almost impossible of enucleation by either the perineal or suprapubic method because there is no line of cleavage formed, but is most suitable to the punch operation or burning by the high frequency current, both of which procedures, carried out through the urethra, avoid the necessity for incision.

*Cystoscopic study thus removes the operation from a blind procedure, animated by hope and followed too often by disappointment, to a definite surgical undertaking with full cognizance of the pathological changes, and directs the choice of method best suited for instituting structural repair.*

The suprapubic operation may be consummated in one or two stages. For those patients who tolerate well an indwelling catheter in the urethra, and whose body functions recover well under its use, where the urine clears thoroughly, and in whom a satisfactory cystoscopic examination has shown the advisability of the suprapubic route, the one stage operation is ordinarily the one of choice. The exposure of the bladder is excellent, any stones may be removed, and the prostate enucleated under the eye so that every step is definitely seen. This permits the suturing of the prostate cavity, thereby excluding the pouch so often seen after the removal of a large adenoma, and permits the control of hemorrhage to as an exact degree as possible under any circumstance. It likewise permits accurate approximation of the incision in the bladder and prevents the occurrence of ventral hernia. The two stage operation is usually reserved for those cases which cannot be satisfactorily decompressed and the urine cleared by urethral catheter; where cystoscopic examination is not deemed advisable or is impossible, and for patients who do not react well to the methods of preparation. In these cases the preliminary opening of the bladder permits the establishing of suprapubic drainage, which will allow the patient's body functions a better opportunity to improve, and enables the operator to form some idea of the character of the obstruction and the condition of the bladder, and to detect the presence of complications as diverticula or tumors and permits their treatment at this time. This preliminary operation is then followed by a removal of the prostate at a later period, from ten days to months, depending on the patient's condition. In the meantime, if the prostate be a large adenomatous one, its size decreases appreci-

ably when the congestion is removed. The advantages claimed for the two-stage over the one-stage operation, other than those cases cited above are less hemorrhage and infection, but as a routine measure these advantages are offset by the facts that it requires two anesthetics, that the second operation is a blind one, only the sense of touch being available, and consequently a much less certainty of complete removal of the gland and careful approximation of the edges of the cavity and some danger of injuring the peritoneum. Undoubtedly there is a definite place for a two-stage prostatectomy. It is a life saving procedure where it is indicated, but that place is only for those cases where the removal by the suprapubic route is indicated but the patient's condition contra indicates removal in one stage. In the large clinics about seventy-five per cent of the suprapubic prostatectomies are done in one stage, the two-stage being reserved for complicated cases. One might argue, as many do, if the two-stage operation is the better in complicated, serious cases, why would it not be better in all cases? The answer is that in the majority of cases the one-stage offers so many operative advantages that it should be chosen where it is quite safe. The same contention might as well be employed with reference to ligation of the thyroid arteries and thyroidectomy, and with as much reason.

The type of prostatism suitable for suprapubic prostatectomy is that of large and moderate adenomata of the lateral and median lobes, or simple median lobe enlargement, sclerotic condition of the vesical neck too wide for use of the Young punch and prostatism complicated by stone, tumor or diverticula.

The perineal operation has now progressed to the point where many of its deterrents in the past have been overcome. The chief of these were injury to the external sphincter with resulting incontinence, persistent perineal fistula, injury to the rectum, and the difficulty of removing small adherent tags close to the bladder. The advantages claimed for it are less shock, an operation conducted under the eye, better drainage and preservation of the ejaculatory ducts. The type of prostate most suitable for removal by the perineal method is that which is most inaccessible by the suprapubic, namely, the small hard fibrous prostate and the adenoma of small size. This is not to be taken to mean that large prostates are not removed very successfully by the perineal method, because they undoubtedly are, but there is more difficulty in completely cleaning the mucosa of tags and in dealing with the complications of stone or diverticula. The adoption of the suprapubic

route as the method of choice by surgeons who have had experience with the perineal would indicate that the advantages of the former outweigh the latter in most types of prostatism.

The anesthetic of choice in most cases of prostatectomy is either sacral anaesthesia or nitrous oxide, because these cause less depression to the kidneys. Sacral anaesthesia is the method "par excellence" where it can be used, and the post operative effects from it are nil. Spinal anaesthesia is used in some clinics, but the profession at large is hesitant in dealing with an anaesthetic whose margin of safety is so small.

The treatment of these patients during convalescence is the third important factor in their recovery. The most important considerations are the comfort of the patient and the maintenance of his general physical condition at as high a state as possible. After nitrous oxide, sacral or spinal anesthesia these patients can drink water immediately on return from the operating room, and the ingestion of copious quantities of water is the best eliminant of the toxic products of metabolism. The intake of water will vary with the individual patient, but his capacity should be forced to the limit and all ordinary post-operative prostatectomies should drink at least 2500 cc. in the twenty-four hours.

Hemorrhage is always a factor to be borne in mind, not that severe hemorrhage occurs with any frequency, but because the loss of even a small amount of blood is a tax on these aged men. Our practice is to have always a donor typed for each patient before operation, so that if there is the slightest occasion for transfusion it can be done immediately. Transfusion is often of great benefit to these patients, even though they have no hemorrhage, and the strength acquired by 500 cc. of fresh blood in their vessels frequently changes what promises to be a tardy convalescence into a very short one.

Malignancy of the prostate constitutes a very different phase of prostatic surgery. We are, of course, as yet only in the embryonic state of knowledge concerning malignancy in general and the effects of radium and the Roentgen ray upon it. About fifteen per cent of obstructing prostates are malignant. A certain per cent of these can be diagnosed prior to operation with practical certainty, and a small portion are discovered only during operation or in the pathological examination of the removed prostate. The malignant prostate which is so readily enucleated that the diagnosis can only be made by the pathologist is manifestly in its



incipiency, and all that could be accomplished has been, by its removal.

Most cases of malignant prostate may be diagnosed prior to operation by palpation and cystoscopic examination. The results of surgery in removal of the recognized malignant prostate are so poor that surgical removal is reserved for those prostates which after treatment with radium show a definite tendency toward cessation of growth and in which the indications are that the gland may then be removed with a fair expectancy of cure.

The malignant prostate has either of two effects, or both, on the victim. It may destroy by its metastasis or toxæmia before it causes any appreciable obstruction to urination, or it may affect the urinary stream early in its growth. It may at times become necessary to operate as a palliative measure to divert the stream suprapubically where the malignant prostate causes obstruction.

Careful X-rays show that metastases are demonstrable in about thirty per cent of cases of carcinoma of the prostate. The most common site for metastasis is the vertebral column, especially its sacral portion. It is quite necessary to determine the presence of these metastases before giving either prognosis or treatment to cases of suspected carcinoma of the prostate, because prostatectomy is less than useless. It requires very little urging to dissuade a surgeon who has removed even a few malignant prostates from a further surgical effort in this direction, and he should consequently be on the alert to discover any indications of malignancy, the most marked of which are a hard nodular prostate as felt per rectum, an irregular, nodular, eroded surface as seen by cystoscope, and pain along the lumbar or sacral nerves from pressure on the roots or nerves.

The employment of radium offers the most sanguine method for the treatment of prostatic carcinoma. It is of vital importance in effecting a cure that all portions of the gland be radiated. As the penetration of the available supply of radium is very shallow, it has been found most satisfactory to radiate the gland by several methods. The radium is placed in the urethra to radiate the urethral portion of the gland, into the rectum to radiate the capsular tissue and that portion of the gland, and then by needles passed directly into the prostate at regularly spaced intervals, thus reaching the central portions of the gland. Theoretically this should reach all portions of the moderate sized malignant prostate. The nearer it is possible to practically employ this procedure, the more likely is an arrest of the disease. Bumpus states

"that the clinical study of these cases demonstrates that in order to treat successfully cancer of the prostate with radium it is necessary to use in the aggregate large doses, 3000 to 4000 mg. hours, exposing all parts of the gland to comparatively small doses, it being demonstrated that the increased duration of life following radium treatment is in direct proportion to the amount of radiation applied."

## DISCUSSION

**Hugh Cabot, Ann Arbor, Mich:** Mr. President, Members of the Society: I am particularly pleased to have heard this paper because it is a most masterly presentation of the present situation in the surgery of the prostate from the point of view of the expert. On the other hand, I want to stress the point that today still more than most of us realize, I believe, the great majority of cases of prostatic difficulties are not being handled by the expert. I remember, I think it was as much as ten years ago, Dr. Whiteside, of Portland, Oregon, collected the statistics of the mortality of prostatectomy from a dozen large hospitals in various parts of the country and was severely criticized for publishing those figures, which showed that the mortality of prostatectomy was over thirty-five per cent.

I quite believe that the present figures collected in the same way would show no great improvement. I know, for instance, that the mortality is quite as high as that in many of the very large hospitals in the country, and we are very apt, I think, to assume that because the expert thoroughly trained in this work has succeeded in producing a very low operative mortality, that represents fairly the risk to the patient today. It does not. In the first place, the operative mortality does not represent the number of patients with prostatic obstruction who die under our care. A very considerable proportion of them never come to operation at all; another not inconsiderable proportion die in a two-stage operation or die under drainage, so that the operative mortality is only a part of the facts.

A patient that comes to you or me is importantly interested in the operative mortality; he wants to know what is going to happen to him. It doesn't make any difference to him whether he dies under our expert care before operation or afterwards, the question with him is whether he is going to die or get well, which brings me to the point that I want particularly to emphasize and that is that in the management of these prostatic cases it is the management of the patient quite as much as the management of the prostate that is important. I have been in the habit of saying to my junior staff members that I believe I could train any competent youngster in the surgery of the prostate in six months,

but that I thought it gravely doubtful if I could teach him how to look after prostaties in less than six years. The surgery is not the most lethal part of the performance. I think relatively few patients die directly as the result of the surgery of the prostate; most of them die through faulty management of their whole system, urinary and otherwise, either before or after the operation.

The management of these people is not, as I believe, importantly surgical. It is really quite as much the concern of the internist as it is of the urologist, and yet it is undoubtedly true that it is the group of urologists who have pointed out to the internist the necessities of dealing with the whole patient and not with his prostate.

It is true that the greatest advances which have been made in diminishing mortality have been made as the result of dealing chiefly or almost entirely with the renal function; undoubtedly the largest single cut in mortality has been in that direction, so that it is today probably true that of the patients who die more or less definitely in connection with operation, a relatively small number die as the result of renal insufficiency. So skillful have a large number of surgeons become in estimating the sufficiency of renal function and improving the poor function that the mortality is today much larger from other causes, and I think we want to draw attention to the importance of watching and studying and caring for to a considerable extent the other systems of the patient, the cardiovascular, the respiratory.

In my own experience in the last two years the great majority of patients whom I have lost have been lost from vascular respiratory accidents and not from the accidents of renal insufficiency. I don't want to suggest that it is less important than we have always believed it to be to study renal function and to provide for its proper care, but it doesn't want to distract us from the importance of the rest of the individual.

We are always dealing in these cases with shaky old machines which will give out at one point or another. Our attention has been focused on the renal aspects with great benefit.

Now I want to suggest to you the importance of studying their other systems.

Just one word on the question of the choice of operations. Dr. Grant has discussed it in a very broadminded way. On the other hand, I want to suggest to you certain advantages of the so-called two-stage operation. I am in the habit of classifying it with ether and the Ford car. Ether as an anesthetic is perhaps the worst of all anesthetics. A Ford car is perhaps not an automobile at all, but they are both extensively used and always will be because they are nearly

fool-proof. So with the two stage operation. The expert can select his operation much to the advantage of the patient. The somewhat less expert will have a lower mortality and more patients living in reasonable comfort if he uses a two-stage operation, for the same reason that many of us drive a Ford car. (Applause).

**Louis Frank, Louisville:** I had not expected to discuss this paper, and Dr. Cabot has expressed so well my own beliefs that there is really very little that I could add. All I could do would be possibly to emphasize what he has brought out. Personally I think that there is very little really in the character of the operation, whether supra-pubic or perineal, so far as the patient is concerned, but I do think that there is a good deal in the two-stage operation. I certainly have seen patients, and quite a number of them, that I believe might have lived had we done two-stage operations on them. I know that the two-stage operation, as Dr. Cabot has said, is almost fool-proof and will be accompanied by much lower mortality than a single stage operation. For that reason I do many more two-stage operations than removal of the gland at one sitting.

Irrespective of the surgical part of it, however, I think the great success that has been achieved in prostatic surgery, the great reduction in mortality in the hands not only of the urologist but of those conscientious surgeons who are so situated that they can give the proper study and the proper care to their patients, depends entirely upon the pre-operative and post-operative management of the case. Irrespective of what type of operation you do, perineal, single stage or two stage, that is true.

If there is any department of surgery where close cooperation between an internist, a real internist, one who knows physiological chemistry, one who knows what the functions of the body should be, and the surgeon, if there is any field in which this cooperation results to the marked advantage of the patient, the tremendous advantage of the patient, it is in the field of prostatic surgery.

Without this careful management, without a very careful study, as Dr. Cabot and the essayist have so well said, of the general system of the patient, of his circulatory system, of his renal apparatus, of his ability to put out the poisonous products in the blood and what his reaction will be to trauma, we will not be able to reduce the mortality or at least to achieve a low mortality at all.

I am absolutely convinced, as he has said, that if we take the general mortality today the country over, or even in the larger general hospitals, of prostatic surgery, we will find very little reduction and very little change to what existed fifteen or twenty years ago. Yet in



the hands of men who do give careful and conscientious attention to the patient, who will not permit themselves to be hastened in carrying out their operative procedures, who will not be rushed in getting the patient out of the hospital we find that the mortality has been reduced to an almost unbelievably low degree.

If there is one condition in which the desires of the patient or the patient's family cannot be heeded to get through with the work, I think it is in this character of work and in this class of cases. The patient should be given to understand that. (We sometimes send our patients out of the hospitals to stay for two months before we complete the work in the two stage operations. We have done that upon several occasions, and those patients are still living, whereas I believe had we permitted ourselves to have been hurried at all they would have had flowers instead of being able to enjoy three meals a day.

**Owsley Grant, (In Closing):** In addition to the question of technique and operative steps, which the paper attempted to point out there remain two other factors which are definitely responsive for the mortality and morbidity of prostatectomy, the preoperative treatment and the postoperative care. I am indebted to Dr. Cabot for his discussion of the former and to Dr. Frank for consideration of the latter.

The two stage operation in our opinion is for use in borderline cases; when in doubt use it. Those cases of prostatism that respond well to the indwelling catheter, whose blood retention is lowered and whose pthalein excretion is raised, in whom a thorough cystoscopic examination has been previously made, those cases will recover both more rapidly and more completely if the prostate is removed in one stage. If it be a question of the patient surviving a one stage operation by all means employ the two, which though a blind and unsurgical procedure, attended itself by some dangers, is unquestionably safer in the marasmatic and patients with severe impairment of the kidneys. To adopt it as routine procedure I think is a definite step backward so far as constructive prostatic surgery is concerned, and though I admit the humor and the aptitude of Dr. Cabot's analogy to ether and the Ford, it emphasizes just the point I endeavor to make, that is that constructive prostatic surgery can not be done with ordinary tools but requires the most careful and diligent study of each case and the exercise of trained judgment.

## CHRONIC INFECTIOUS ARTHRITIS.\*

By ORVILLE R. MILLER, Louisville.

It is only in recent years that certain types of so-called rheumatism have been found to be of bacterial origin.

Arthritis Deformans of the Germans, Osteo-Arthritis of the English, Hypertrophic Arthritis of Goldthwaite, the degenerative Arthritis of Nichols and Richardson, the Metabolic Arthritis of some and the destructive arthritis of others, Heberdeens nodes and chronic rheumatism of elderly, all come in this class. None of these affections should be confused with Gout, Tuberculosis or Syphilis. It is not caused by traumatism, but thaumatism, previous attacks of rheumatism or strains may be predisposing factors. It is practically always due to some focal infection as of teeth, tonsils, sinuses, mastoid, middle-ear, bronchitis or glands of the lungs, cholecystitis, appendicitis, mesenteric glands or genito-urinary organs or any other place or part of the body which is capable of becoming infected and of retaining a slowly developing infection. Indeed one joint may be a focus for other joints, etc. Diet and mental emotion also have their part as predisposing factors. Dr. L. W. Ely reports that in two hundred cases only three had sound teeth. It is not agreed as to what organism, if indeed any one particular germ, is invariably the cause. Prof. Kofoed thinks he has found the *Amoeba Histolytica* in one of Ely's specimens. No organism up to this time has been unmistakably found and identified within or in the surrounding tissues of the affected joints. Ely is of the opinion that it surely is secondary to an infection in some other part of the body, but is probably caused by some non-bacterial substance floating around in the blood. Rosenau and Billings, after extensive study and experimentation, are of the opinion that this type of arthritis usually follows an infection by a certain strain of non-hemolytic streptococcus or occasionally strains of non-pyogenic gonococci of low virulence. The patient usually gives a history of chronic tonsilitis, abscess of the teeth, appendicitis or gonococcal infection in time past. It may begin as acute febrile poly-arthritis subsiding slowly with repeated attacks. Sometimes is a progressive affection, affecting and permanently crippling one joint and then attacking another and another in succession. More frequently it has an insidious onset. It is almost painless, there is little if any temperature, and while there is some swelling

\*Read before the Kentucky State Medical Association, Crab Orchard Spring, September 18, 19, 20, 1923.

and redness about the joints, it is not nearly so marked as in the acute cases.

Usually it primarily involves the smaller joints of the hands and feet, but often extends to the elbows, knees, shoulders, spine and hips. While there is pain it is not severe enough to necessitate the administration of narcotics, but is nevertheless constant and harassing. The dominant feature is atrophy of the joint structure, then muscles, skin and periarticular structures. In some cases we find an enlarged joint as a consequence of the periarticular thickening and the X-ray shows only a rarefaction of the bones. In others the amount of enlargement and clinical character and severity do not indicate in a reliable way the amount of bony changes present and the X-ray findings may far exceed the symptoms. In the osteo-arthritis or degenerative type we find a lipping or apparently a process of new bone formation about the edges of the bone at the articular surface with a thickening and increase of density in the bone. What takes place pathologically during the process is a thickening in the joint and synovial tissues primarily due to an abundant villous proliferation and new formation of blood vessels. A mild endarteritis in the capillaries takes place. Proliferative changes take place in the bony and cartilaginous structure in the osteo-arthritis type, while there is an aseptic necrosis in the marrow of the bone near the joint. The bone and marrow in a greater or smaller compass die and are replaced by fibrous tissue containing cysts and sequestra. There is a layer of dense bone built up underneath as if nature were attempting to wall off the joint. The cartilage is worn away, the exposed bone becomes eburnated and grooved so as to conform with the shape of the articular surface of the other bone. In the last stage there is a shrinkage of the capsule and periarticular tissues with an infiltration of fibrous tissue as a result of an anemia caused by endarteritis. The end results are always a deformity due directly to the bone and joint changes. Union between the ends of the bone by bony tissue seldom occurs except in the spine. It is necessary to differentiate this type of arthritis from that of tuberculosis and syphilitic origin by means of the Von Pirquet, the Wassermann reactions and the X-ray. Yet there may be either one or both of these conditions coexistent. Monroe states in his "Studies from the Royal Mineral Water Hospital" that he has found 50 per cent of these cases showing a positive reaction to old tuberculin and 20 per cent with a positive Wasserman, while 11 per cent showed a positive reaction to both. There is usually

some digestive disturbance found in these cases, but this is due to an intoxication and is not a cause of the arthritis. Among 500 cases collected by Garrod, 411 occurred among women. Osler found more than 50 per cent occurring among men. Green found 2-3 of his cases occurring among women. From the records of the Louisville City Hospital the writer found 55 per cent among men.

The treatment is preventative first of all. Chronic Arthritis may follow an acute attack and the joint affected may act as a focus for other joints. For this reason the acute cases should be handled with care and in such a way as to affect a permanent cure if possible and as speedily as possible. The focus should be sought for diligently and removed if possible. The focus is usually opening on to or adjacent to a mucus or cutaneous surface or in the glands situated near such focus or near the joint involved. The glands of course receive their infection from the primary focus and may retain the infection long after the removal of the primary focus so that the symptoms may persist long afterward. Hence the advisability of early removal of the primary focus before the glands become infected and act themselves as a point from which the infection may spread to other points in the body. When an acute arthritis occurs the affected part should be put at complete rest by means of splints or preferably by Plaster of Paris snugly applied. This should be allowed to remain for a period not to exceed the time for the pain, tenderness and swelling to subside which is ordinarily about ten days or two weeks. Active and passive motion are begun at once along with baking and massage. Motion breaks up any adhesions which may be in the process of formation. Baking and massage increase the circulation and lessen the amount of stiffness in the joint following the acute inflammation. When a case has already passed into the chronic stage before presenting itself for treatment or when its course from the beginning has been of the insidious chronic type, the treatment is the same so far as the removal of the source of the primary infection is concerned. A most painstaking and diligent search should be made and every part of the body subjected to the closest scrutiny in order that the cause of the trouble may be destroyed.

Free use should be made of the X-ray in interrogating the sinuses of the head and the mastoid region and the teeth. The tonsils should be closely examined and removed if found at all suspicious. The chest should be X-rayed and closely examined for a chronic



bronchitis. A focus should be sought in a possibly chronic cholecystitis, appendicitis, pyelitis, chronic inflammation of the genital tract or an infection arising from a fissure or fistula in ano. Wherever the focus is found there should be as speedy and complete removal as possible.

Swett reports synovectomy of the knee in cases of chronic arthritis of the knee has given good results in a limited series of cases. Dickson states in the discussion of Dr. Swett's report that he also has obtained good results by this kind of treatment.

The joint is opened and the entire synovial membrane is removed along with the villous proliferation found within the cavity. Active and passive motion and massage are begun in about one week or ten days. Locke and Osgood also recommend open operation in villous types. Brisement Forcé is recommended in cases in which the X-ray shows good joint surfaces. Long fixation should be avoided following such treatment.

Hygienic treatment is fresh air and sunshine. The patient should choose a residence and an occupation where the sudden changes from heat to cold will be minimized. Proper under clothing should be worn to keep the body warm at all times. Exercise is a very important thing from the metabolic view as well as from the standpoint of the joint itself. Lehmyer states in the "Zeitschrift für klinische Medizin" Dec. 30th, 1921 that "lack of exercise in chronic joint disease is liable to upset the purin metabolism as much as in acute gout." However, care should be taken that there is not over use of the joint.

Symptoms of over use are: swelling, redness, tenderness, stiffness and pain, that is, pain lasting for several hours afterward and not quickly relieved by rest. But active motion in the form of exercises or occupational therapy are prescribed. Whatever kind the exercise may be, it should be something that the patient enjoys or something that he really wants to do.

The diet should be generous, should be made up of rare beef, chicken, fresh oysters, fish and wholewheat bread. There should not be an excessive amount of sugar used since in this type of case there is found already an excess of sugar in the blood. Fresh milk and eggs, bacon and cereals may be given also.

Electric light baths and Turkish baths as well as a great many other kinds of hot and cold baths relieve pain and are desirable in many cases. But patients with heart lesions should not receive turkish nor electric light baths and in no case should sweating baths

be allowed more than two or three times a week. Frequently while hydro-therapy is being carried on or immediately following, there is an exacerbation of symptoms and it is not recommended in all cases.

The internal treatment is almost wholly symptomatic. The Salicylates are of only moderate value. X-ray and radium have been used, but found valueless. Thyroid and Thymus glands have been administered in such cases, but without lasting benefit. Faradism and Galvanism are of value only to the extent that they may prevent a wasting of the muscles due to disuse. Iodides, especially those that are organically combined, are of value in arresting the process for the time being at least and in adding comfort in the relief of pain.

Luff recommends guaiacol carbonate to be taken over a long period of time—for at least one year.

The infecting agent is one of low virulence, but is exceedingly difficult to overcome completely. It is necessary not to lose sight of the fact that though the primary focus may be removed, there may exist another which may be so situated that it cannot be removed and a long course of treatment is necessary to increase the resistance of the body to the point where it may be overcome. While joints that receive treatment early may maintain or regain their motion and to all outward appearances be normal, still once a joint reaches the stage of chronicity the damage actually done cannot be repaired however slight it may be. Dr. Billings in the journal of the American Medical Assn., April 15th, 1922 says: "The cause of the remarkable transformation of the fibrous tissues which enter into the joint structure and also of muscle tendons, into bone, is an interesting subject for future investigation. If the remarkable results of animal experimentation reported by Oxhausen can be substantiated it may be possible to apply preventive measures which will obviate these disabling, irremediable, secondary, morbid changes."

## DISCUSSION

**Barnett Owen:** Dr. Miller has presented in a very clear fashion a condition which is most pathetic, that is of arthritis deformans. I dare say there is not a single doctor in this room that feels at all gratified when he has a new patient such as that. I don't know of any condition in which I feel more helpless and in which I have the greatest sympathy for the fact that they continue to live indefinitely, and I know very few of us that can stop the progress of the condition after it has once developed to the point in which, as in the pictures shown, there are a tre-

mendous lot of contractures, thighs flexed, limbs, flexed, feet extended, wrists dropped, and the general shape of being molded to a chair. There are some cases in which the condition has not progressed to that pathetic degree, and they are cases in which they are more sub-acute, or they have not been chronic, cases in which such great degree of deformity and bone destruction has not taken place, that is in a number of joints. In an isolated joint like an elbow or a knee, it is sometimes possible to hope for some benefit after the disease has subsided, in the way of an operation which would produce a movable joint.

There are some selected cases in which we can hope for much benefit. There are other cases in which it is probably better to make a completely stiff joint in a favorable position instead of having a little motion which continually causes pain.

After all, this condition, I think, resolves itself into early diagnosis. Unfortunately, we don't see those cases until the damage has been done. In the early diagnosis if it is possible to localize the original focus of infection, we can hope for a great deal.

I have in mind one case that taught me a lesson in the way of searching for focal infection, and that was the case of a woman from the eastern part of Kentucky, a case in which she had a chronic arthritis caused by an infection at the root of a tooth which had remained in place after all her teeth had been drawn, her tonsils removed, her sinuses transilluminated and found negative. All the blood chemistry had been done, she had gone to the best clinics in this country and had had the very best attention, but I felt she still had a jaw-bone remaining and we took some X-rays of her jaws and luckily found this localized and completely isolated focus of infection. That was removed and she continually improved after that. There was a certain amount of damage done in this case, which, of course, was not restored, but that teaches us one lesson, not to take anybody's examination no matter how thorough, but begin with our examination just as if the patient had never been examined before. We may not be able to discover any definite origin of infection, but it sometimes is possible, and in this particular instance it meant a great deal to us.

Of course, when we see that this condition is progressing, the first thing in the treatment is the immobilization of the joint affected until the acute exacerbation has subsided, no longer. Then we continue the heat, massage and active motion to reestablish function, prevent muscular and bony atrophy which prolonged fixation will cause.

We also find in some chronic conditions that the deformities develop such as flexion of the

knee, flexion of the wrists, elbows, or ankylosis with the arms extended, which could be prevented probably, by the proper protection at the time when this was progressing. That, of course, should be looked after. We should prevent all deformities possible to prevent.

After we have prevented the deformity and the disease has subsided to a great degree, it is a question of reestablishment of function. The whole thing, after all, is your early diagnosis and the discovery, if possible, which is almost impossible in many instances, of the original focus of infection.

**J. R. Morrison, Louisville:** Early diagnosis of these conditions is a thing to be greatly sought after. If this can be established and all the foci of infection removed, probably many of these cases can be saved a great deal of trouble.

I had a case of a woman who, like Dr. Owen's case, had had everything done. When we X-rayed we found two roots of teeth, and when they were taken out she began to improve.

Many of these starch and sugar eaters have a low carbohydrate tolerance, and increasing the fat and the meat and cutting down on the starch in the early cases I have seen has undoubtedly done a great deal of good, and also bringing in the orthopedic men sometimes keeps them from getting stiff. So many of those people, if we exercised a little common sense, wouldn't get deplorably stiffened up as they sometimes do. Don't give them morphin; give them a little Polly Anna sunshine, and cheer them up and give them attention and they will frequently improve.

**J. G. Carpenter:** I would like to take a whack at this subject. I find the early bird catches the worm. It is a misfortune that so many practitioners are in a comatose condition; robbing themselves and let so-called specialists cure patients; they are not looking out into the future. When these cases of acute arthritis are given rest, with immobilization at the right time, in the first place, you have started on the right road. Use massage. Every doctor should be a little bit of a masseur or osteopath and the doctor who has those little things at hand has some jewels in his crown if he is not too lazy to use them and dollars in his pocket.

Instead of having the patient use expensive liniments, out in the sticks here they use polecat oil, they rub heroically and go on to a happy recovery. (Laughter and applause).

**O. R. Miller, (In Closing):** There is very little that I can add to what these gentlemen have said. There is one point that I should like to mention, and that is that we find very much less of stiffness and deformity, (that is, in com-



parison with the number of cases we find) among the poor laboring class of people than we do among the wealthy, and I think that the whole reason is because they use those joints, they must use them in order to make a livelihood, whereas the wealthy patient does not have to. It is just a strong argument for active motion which must be persisted in in spite of pain.

## PURPURA HEMORRHAGIA: SPLENECTOMY.\*

By MORRIS FLEXNER, Louisville.

The specimen which I exhibit is a spleen removed from a patient who had extensive purpura hemorrhagica by Dr. Louis Frank this morning.

The patient is a girl aged fifteen years who first came under my observation about a week ago. She was referred to me by a physician in the country under whose observation she had been for three or four weeks. During that time there had been some bleeding from the gums, later the entire body showed purpuric spots and petechiae. She felt well, however, and a physician was not consulted for some time after the petechiae were noted. There had been some scarlet fever in the neighborhood, and when she noticed spots on her chest she became impressed with the idea that she had this disease and applied to the physician for examination.

After the physician examined her and found these petechiae, varying in size from a pin point to one millimeter in diameter, distributed over the entire body, he recognized of course that it was not a case of scarlet fever. The larger lesions were on the chest and legs the smaller ones were widely distributed. There were also some minute lesions in the subconjunctival region and in her mouth, there being quite a number on the inside of the cheek and on the soft palate. She also had some extravasation of blood into the tissues of both knees and the crest of the ilium on one side.

A blood count was made and the coagulation and bleeding time tested. The coagulation time was normal, in fact was a little shorter than usual. The normal coagulation time is about three minutes with our apparatus, in this case it was two minutes. The finger puncture bled for ten minutes and I think would have bled fifteen or twenty minutes more had it not been stopped by pressure and dressing. Hemoglobin 60 per cent. erythrocytes 3,000,000, leucocytes 9,000, dif-

ferential count of no significance. Blood platelets were so scarce as to be found with difficulty. I might add that this girl was menstruating when admitted to the hospital and in the two succeeding days she lost a tremendous amount of blood.

Based upon the clinical picture and the laboratory findings we felt justified in making the diagnosis of idiopathic purpura hemorrhagica.

On general examination there was some evidence of hemorrhage from the gums. There were no cardiac murmurs nor any evidence of endocarditis. I have previously observed three patients with true purpura hemorrhagica of the idiopathic type all of whom died.

While in St. Louis recently I saw two children whose spleens had been removed for idiopathic purpura hemorrhagica, so the idea of doing something for this girl which might save her life appealed to us. Dr. Frank performed splenectomy this morning. The operation was rather difficult as the spleen was deeply situated and adherent.

Splenectomy for purpura hemorrhagica represents a surgical development within the last year. Practically all patients with idiopathic purpura have died. Recently quite a few such patients have recovered following splenectomy. Both the children I saw in St. Louis when admitted to the hospital had a red cell count of less than one million. Transfusions of whole blood were practiced and splenectomy was later performed. Shortly thereafter the blood count was practically normal. These children had been in the hospital for some time, one of them for six weeks, the other four weeks. They were perfectly well when I saw them. In the literature there are cases which have been followed for a greater length of time, who are doing well.

## DISCUSSION.

**Louis Frank:** This is the first instance in which I have performed splenectomy for idiopathic purpura hemorrhagica. We have previously removed the spleen in two cases of Banti's disease, and removed a wandering spleen in another case. In the case reported by Dr. Flexner I thought the operation would be much easier than it was. Difficulties were encountered when it was found the spleen was adherent to the diaphragm at one point. The pedicle was also very short which increased the difficulties of the operative procedure. The spleen was finally removed without rupture, although the vessel walls were very thin and we had to work deep in the cavity. The pedicle was clamped before delivering the spleen.

The shock following the operation was tremendous, the child appeared extremely ill, she

\*Clinical report with exhibition of specimen before the Louisville Medico-Chirurgical Society.

had some elevation of the temperature and a rapid pulse rate. Tonight, however, she is much improved and the pulse rate is lower. The spleen was distended with blood when removed and was much larger than shown at present. It was about one-half again larger than normal. There was much more shock than I have seen in other cases similarly operated upon.

I have seen several cases of idiopathic purpura hemorrhagica. I recall one seen with the late Dr. J. B. Marvin which I believe was reported before this society at the time. The patient was a boy sent in with the diagnosis of appendicitis and was operated upon. His appendix was filled with blood and greatly distended, which of course accounted for the pain from which he suffered. In quite a number of places the intestine and other viscera were studded with hemorrhagic spots. Three or four days later he developed hematemesis and died later from gastric and intestinal hemorrhages.

I recall another case very similar to the one just cited, and that patient also died. About that time, if I mistake not, Dr. James Chenoweth read before the Louisville Surgical Society quite an extensive paper on "rheumatism" associated with visceral hemorrhage. The cases I have mentioned were visceral hemorrhages. I have seen one or two other cases of purpura associated with erythema nodosum, also with rheumatism so-called, in which there were extensive hemorrhages particularly about the shins. These patients had hemorrhages and two or three of them recovered. These were not however, idiopathic. All the patients I have seen with idiopathic purpura have died.

**Leon K. Baldauf:** I reported a case of purpura before this society about six months ago. A child ten years old had abdominal and rheumatic symptoms as mentioned by Dr. Frank. It was not, however, an idiopathic case as the cause was discovered. We found that this child had a sinus communicating with the root of a tooth. The tooth was vital, but there was a small sinus which communicated with the root. The purpura dated from the time the child had trouble with that tooth, a dentist was consulted who advised the mother to have the tooth extracted, but this was not done. The hemorrhages in this case were mainly about the exterior surfaces of the arms and in the lower extremities. After examination we advised that the tooth be extracted and when this was done there was a terrific hemorrhage, bleeding from the surface also increased and for a time we despaired of the child's life. After four or five weeks all hemorrhage from the skin subsided and the child became perfectly well. This was clearly an infective type of purpura, probably streptococcic in character.

I happened to be in Cincinnati about a month after I had seen this case, and Dr. Burghausen told me he had just had under observation a most interesting case of acute purpura. It was identical with the one just described. There was a small sinus communicating with one of the teeth. Following extraction of the tooth the purpura completely subsided. There are many cases recorded in the literature of purpura which were not idiopathic, but of streptococcic origin.

**Morris Flexner (Closing):** I think the differential diagnosis between idiopathic purpura and infective purpura (mentioned by Dr. Baldauf), is based largely upon the coagulating time and bleeding time. In the idiopathic type endocarditis is not a complication.

In cases of idiopathic purpura I believe splenectomy is the only chance at present of conserving the life of the patient.

---

### UTERINE FIBROMA WEIGHING FORTY-SEVEN POUNDS, CASE REPORT.\*

By M. Y. MARSHALL, Henderson.

The case report by Dr. Charles Farmer in the October issue of this JOURNAL, of a uterine fibroid weighing thirty-five pounds moves me to report the following case. The patient, a negro woman 50 years old, was operated by Dr. J. C. Mosely and myself at The Mosely Hospital, this city, about two weeks ago.

The tumor, which was first noticed about 15 years ago, was enormous, filling the entire abdomen to the ensiform, and considerably larger than a full term pregnancy. The omentum was adherent to the upper surface of the growth and the omental veins tortuous and dilated to 1-2 or 3-4 inches in diameter. There were no other adhesions present, and the operation presented no especial difficulties. The growth was sessile on the uterine fundus, and joined to the latter by a very short peduncle, oval in cross-section, and about 2 x 3 inches.

The weight of the tumor was 47 pounds and on sectioning it, two areas of necrosis and cystic degeneration were found in the center of the growth. But for these areas it presented the typical appearance of a fibromyoma.

The post operative history has been entirely uneventful up to the present time.

---

\*Read before the Henderson County Medical Society.



## NOTES ON THE LIFE AND WORK OF EDWARD JENNER.\*

By STUART GRAVES, Louisville.

In seeking information by which I could make the study of bacteriology and immunology more interesting to students and at the same time impress upon them some of the characteristics of great men in medicine, I have indulged most pleasantly and profitably in investigating the lives and work of some epoch making contributors to our history.

Among these great men one of the most interesting is Edward Jenner, famous for his inquiry into the relation between cow-pox and variola or small-pox. A study of his career brings into review many lessons of value to us in these modern times.

In the first place Jenner was a country practitioner, but of that type whose senses are rendered keener by close observation of natural phenomena and undisguised people about him. He served his apprenticeship, after the manner of his time, under a country physician near Bristol, England. In the beginning of this apprenticeship, while he was only 19 years of age, a young country woman applied to him for medical advice. It is obvious from the account he was training himself from the beginning in that excellent habit of acquiring carefully a personal history of each patient, for when the young country woman applied to him, he questioned her about small-pox, on which she observed, "I cannot take that disease, for I have had the cow-pox." So much for his early trait of painstaking investigation.

In the second place Jenner had a most remarkable persistency. Today we regard the process of vaccination against small-pox as a very simple affair. As we shall see, it took Jenner a quarter of a century, in the face of serious opposition, captious criticism and cynical skepticism, to say nothing of learned prejudice, to establish this seemingly very simple scientific procedure.

In the third place Jenner was very fortunate in associating himself early with a great mind. Most of us can look backward upon a period in our lives when our developing careers have been greatly influenced by some forceful intellect. Fortunate for us if we have come under the right one. Jenner came under the influence of John Hunter. When he went to London in 1770, after two years of apprenticeship, to finish his medical studies at St. George's Hospital, he went to live at the home of that great man. This association ripened a friendship which continued

until Hunter's death. Quite naturally Jenner became interested chiefly in anatomy and natural history, two fields which developed in a marked degree his natural inclinations for accurate observation, correlation and deduction. On finishing his two year course of medicine, at the age of 22, he declined a position as naturalist on one of the expeditions of the navigator Cook and returned to his native village of Gloucester to take up a village practice. His subsequent career teaches us that he began his practice with that purpose which we can all profitably bear in mind, the purpose of rendering service to his fellow-man.

In the fourth place Jenner set us a good example by taking up at once an active research. Too often a young doctor who settles in a country village contents himself with jumping to a conclusion that he cannot do investigative work without the resources of expensive and complicated laboratories, hospitals, etc., and falls into a humdrum rut. The trouble is not in his surroundings, but in himself. Such a man would be deadwood amidst most favorable surroundings, while a born student and investigator is not held back by lack of conveniences.

In 1773 Jenner, early in his practice, began to make records of his observations regarding cow-pox and small-pox. These records are models for accuracy of detail and simplicity of expression. Some examples are most instructive:

Case I: "Joseph Merret, now an under gardener to the Earl of Berkeley, lived as a servant with a farmer near this place in the year 1770, and occasionally assisted in milking his master's cows. Several horses belonging to the farm began to have sore heels, which Merret frequently attended. The cows soon became affected with the cow-pox, and soon after several sores appeared on his hands. Swellings and stiffness in each axilla followed, and he was so much indisposed for several days as to be incapable of pursuing his ordinary employment. Previously to the appearance of the distemper among the cows, there was no fresh cow brought into the farm, nor any servant employed, who was affected with the cow-pox. In April, 1795, a general inoculation taking place here, Merret was inoculated with his family; so that a period of twenty-five years had elapsed from his having the cow-pox to this time. However, though the variolus matter was repeatedly inserted into his arm, I found it impracticable to infect him with it; an efflorescence only, taking on an erysipelatous look about the centre, appearing on the skin near the punctured parts. During the whole time that his family had the small-pox, one of whom had

\*Read before the Louisville Medico-Chirurgical Society.

it very full, he remained in the house with them, but received no injury from exposure to the contagion.

"It is necessary to observe that the utmost care was taken to ascertain, with the most scrupulous precision, that no one whose case is here adduced had gone through the small-pox previous to these attempts to produce that disease.

"Had these experiments been conducted in a large city, or in a populous neighborhood some doubts might have been entertained; but here, where population is thin, and where such an event as a person's having had the small-pox is always faithfully recorded, no risk of inaccuracy in this particular case can arise."

Case II: "Sarah Portlock, of this place, was infected with the cow-pox when a servant at a farmer's in the neighborhood, twenty-seven years ago. (I have purposely selected cases in which the disease had appeared at a very distant period previous to the experiments made with variolus matter, to show that the change produced in the constitution it not affected by time).

"In the year 1792, conceiving herself, from this circumstance, secure from the infection of the small-pox, she nursed one of her own children who had accidentally caught the disease, but no indisposition ensued. During the time she remained in the infected room, variolus matter was inserted in both her arms, but without any further effect than in the preceding case."

Case III: "John Phillips, a tradesman of this town, had the cow-pox at so early a period as nine years of age. At the age of sixty-two I inoculated him, and was very careful in selecting matter in its most active state. It was taken from the arm of a boy just before the commencement of the eruptive fever, and instantly inserted. It very speedily produced a sting-like feel in the part. An efflorescence appeared, which on the fourth day was rather extensive and some degree of pain and stiffness were felt about the shoulder; but on the fifth day these symptoms began to disappear, and in a day or two after went entirely off, without producing any effect on the system."

Case IV: "Mary Barge, of Woodford, in this parish, was inoculated with variolus matter in the year 1791. An efflorescence of a palish red colour soon appeared about the parts where the matter was inserted, and spread itself rather extensively, but died away in a few days without producing any variolus symptoms. (It is remarkable that variolus matter, when the system is disposed to reject it, should excite inflammation on the part to which it is applied more speedily

than when it produces the small-pox. Indeed, it becomes almost a criterion by which we can determine whether the infection will be received or not. It seems as if a change, which endures through life, had been produced in the action, or disposition to action, in the vessels of the skin; and it is remarkable, too, that whether this change has been effected by the small-pox or the cow-pox, that the disposition to sudden cuticular inflammation is the same on the application of variolus matter.) She has since been repeatedly employed as a nurse to small-pox patients, without experiencing any ill consequence. This woman had the cow-pox when she lived in the service of a farmer in this parish thirty-one years before."

Case VIII: "Elizabeth Wynne, aged fifty-seven, lived as a servant with a neighboring farmer thirty-eight years ago. She was then a dairymaid, and the cowpox broke out among the cows. She caught the disease with the rest of the family, but, compared with them, had it in a very slight degree, one very small sore only breaking out on the little finger of her left hand, and scarcely any perceptible indisposition following it.

"As the malady had shewn itself in so slight a manner, and as it had taken place at so distant a period of her life, I was happy with the opportunity of trying the effects of variolus matter upon her constitution, and on the 28th of March, 1797, I inoculated her by making two superficial incisions on the left arm, on which the matter was cautiously rubbed. A little efflorescence soon appeared, and a tingling sensation was felt about the parts where the matter was inserted until the third day, when both began to subside, and so early as the fifth day it was evident that no indisposition would follow."

Honesty of purpose was a guiding principle for Jenner. On the discussion which followed his first announcement he made this assertion in a public letter: "Ere I proceed let me be permitted to observe that truth, in this and every other physiological inquiry that has occupied my attention, has ever been the object of my pursuit, and should it appear in the present instance that I have been led into error, fond as I may appear of the offspring of my labours, I had rather see it perish at once than exist and do a public injury."

Clear thinking and logical deduction, so essential to accurate conclusions are beautifully illustrated in Jenner's handling of the arguments of some of his critics. How comforting to many a doctor these days who is buffeting his way through storms of ignorance and shallow thinking, is the following



arraignment quoted from Jenner's letter of 1799 to Dr. Parry at Bath:

"My Dear Friend: The same motives which impelled me to dedicate to you my first essay on the Variolæ Vaccinæ, induce me to offer you my further observations on the same subject.

"I am pleased at seeing the investigation so generally entered into, and I hope that the spirit with which this important inquiry will be prosecuted may be tempered with that calmness and moderation which should ever accompany philosophical researches.

"With the greatest regard, I remain,

"Your very sincerely,

"Edward Jenner."

For sixteen years Jenner continued his studies and by 1796 he seems to have acquired sufficient evidence to attempt a regular inoculation and on May 14th of that historic year he performed his first vaccination.

"Lymph taken from the hand of Sarah Holmes,' affected with cow-pox, was inserted into the arm of James Phipps, a healthy boy about eight years of age. The boy went through an attack of cow-pox. The real test now came. Six weeks later (July 1st.) matter from a small-pox pustule was introduced into his arm. The boy remained perfectly well."

Four years later Jenner applied to the Royal Society of London for permission to present his conclusions before that august body. To this request the president of the society replied with the advice that Jenner "should be cautious and prudent, that he had already gained some credit by his communications to the Royal Society, and ought not to risk his reputation by presenting to the learned body anything which appeared so much at variance with established knowledge, and withal so incredible." (Baron, quoted by Pettigrew).

Jenner did not present his communication, but he went to London and left a supply of virus with Mr. Cline of St. Thomas Hospital. Mr. Cline repeated some of Jenner's experiments and became his enthusiastic supporter and urged Jenner to settle in London, promising him 10,000 pounds a year as an income from the practice he would acquire.

And now comes the sixth characteristic of Jenner which is such a comfort and source of strength, that calm and courageous attitude of the true philosopher who is conscious of his honesty of purpose, his firm faith in truth and right. He was nearing his fiftieth year. And here is his meditation:

"Shall I, who even in the morning of my days sought the lowly and sequestered paths of life, the valley, and not the mountain; shall I, now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? My fortune, with what flows in from my profession, is sufficient to gratify my wishes; indeed, so limited is my ambition, and that of my nearest connections, that were I precluded from future practice, I should be enabled to obtain all I want. And as for fame, what is it? a gilded butt, forever pierced with the arrows of malignancy. \*\*\*\*\*

Jenner lived to see his research vindicated. In 1802 Parliament voted him an honorarium of 10,000 pounds. Eleven years later the University of Oxford conferred upon him the degree of Doctor of Physic.

On January 26th, 1823, Jenner died, being in his seventy-fourth year. After his death there was found among his papers a letter post-marked January 14th, 1823, with the following, probably part of a note to be written in full later: "My opinion of vaccination is precisely as it was when I first promulgated the discovery. It is not in the least strengthened by any event that has happened for it could gain no strength; it is not in the least weakened, for if the failures you speak of had not happened, the truth of my assertions respecting those coincidences which occasioned them, would not have been made out."

**Rural Health Officers Becoming More Interested in Syphilis.**—In compliance with a provision of the public health law the Division of Venereal Diseases is cooperating with nine rural health officers in the treatment of thirteen syphilitic patients by supplying the health officer with the necessary neoarsphenamine. Although there are 43 clinics strategically situated upstate which at present have under treatment more than 3,400 persons, there is need for this additional service in the rural districts. Many infected persons residing in communities too small to permit of the operation of a clinic are unable to pay for treatment and can not afford the loss of time and expense incurred in going to one. The treatment of such persons by the local health officer is the only way to meet their needs.

PERFORATING INJURIES OF THE  
EYE BALL.\*

By R. W. BLEDSOE, Covington.

This type of injury occurs most frequently among mechanics, such as machinists, boiler makers, bridge builders, track layers and stone workers.

However, about any factory or shop, even around the home or the farm, there are many ways in which perforating injuries to the eye ball may, and do occur, unless the greatest care is exercised. They also not infrequently happen to children while at play. The variety of substances penetrating the eye are legion. While chips of iron or steel are by far the most common, others to be mentioned are copper, tin, glass, stone, sharpened sticks of wood, pencils, twigs of trees or bushes, thorns, knife blades et cetera.

The iron or steel foreign bodies such as chips from hammers, hatchets, cold-chisels, rivets and castings are usually sterile when they penetrate the eye ball because of the great heat generated at the moment of the stroke of the hammer.

All others, with the possible exception of slivers of copper from dynamite torpedoes are likely to be infectious.

The foreign body may remain wedged in the corneal or scleral wound, or pass into or through the iris or lense and remain somewhere in the vitreous, or it may pass completely through the globe and be imbedded in the neighboring tissues.

The point of entrance or perforation of the eye ball is quite an important prognostic feature.

Perforations in or near the limbus are the most dangerous, especially those involving the ciliary body are particularly prone to be followed by a very acute inflammatory reaction, with ultimate loss of the sight, if not the eye ball.

Penetrating injuries of the center of the cornea, even when the iris and lense are not damaged are followed by a more or less impairment of function of the eye, depending upon the size of the scar in the cornea after recovery.

Wounds in the cornea associated with prolapse of a portion of the iris are likely to be followed by infection unless attended to very soon after the injury.

In any perforating injury, if the foreign substance damages the lense, even though ever so slightly, as merely pricking the capsule, it is followed promptly by the formation

of a traumatic cataract. When the foreign body passes through the lense, the lense substance immediately begins to absorb water from the aqueous humor and becomes swollen and opaque, in other words cataractous.

Scleral wounds, if large, are likely to be associated with great loss of vitreous, intra-ocular hemorrhage or infection and loss of sight. When the wound is small and the scleral coat alone having been traversed the results are usually gratifying.

Other things being equal, the prognosis is better in a case of impacted foreign body when the substance happens to be iron or steel, because we are able, with the aid of the Electro Magnet to remove the metal from any point within the globe.

With foreign bodies such as glass, copper, splinters of wood, or portion of a thorn in the vitreous, their removal is quite difficult and entails much danger on the part of the eye.

Copper is the most irritating of foreign substances. This has been proven in cases where the copper remained imbedded in the vitreous, become encapsulated, but eventually these eyes were lost invariably.

## TREATMENT

In the treatment of perforating injuries of the eye ball it is vital that prompt attention to the wound be given.

The eye should be cocaineized sufficiently for the patient to tolerate thorough cleansing with warm saline or boric solution.

The utmost gentleness should be exercised when the wound is large, for fear of encouraging or increasing the prolapse of iris or vitreous. Where either of these is present the protruding iris should be excised, likewise any presenting vitreous.

Atropine is to be instilled to cause the iris stump to withdraw from the lips of wound and avoid adhesion, also to put the ciliary muscle at rest.

In all cases, even where it is only possible that there may be an imbedded foreign body, X-ray examination with localization of the foreign body should be made at the earliest possible moment.

No ointments should be used in the eye until after the X-ray diagnosis has been obtained. The reason for this is that it is difficult to obtain good anesthetic action from cocaine soon after the use of ointments.

Temporary but sterile dressing is now applied and the patient sent at once to a radiologist.

If the X-ray findings indicate the absence of foreign body, the temporary dressings are to be removed, the eye cocaineized, and douch-

\*Read before the Campbell-Kenton County Medical Society, Newport.



ed. Large wounds are sutured when possible or conjunctival flaps made.

When we are enlightened by the X-ray as to the presence and location of a foreign body, if it be steel or iron the Electro Magnet is brought into service.

At this stage of the operation non magnetic instruments, such as eye speculum, retractors and forceps must be used.

Incidentally, it is advisable for those in close contact with the magnet to remove their watches beforehand.

At times the magnet tip may be inserted into the original wound and the foreign body extracted. In other cases, especially when the foreign body is well back in the vitreous it is best to dissect up the conjunctiva and incise the sclera between the recti muscles as near the location of the foreign body as possible and insert the magnet tip through this wound.

Careful and dexterous use of the magnet must be made until the foreign body is found and removed.

The wounds are now closed by suture, the eye well douched, 1 per cent Atropine either in positively sterile solution or ointment, together with ointment as yellow oxide 1 per cent or Bichloride 1:3000 are inserted and dressings applied.

A good clearing of the intestinal tract is very advisable, followed by moderate diet and rest in bed. The good eye should be protected from bright light by large eye, medium tinted spectacles. Reading is not permissible.

The eye is to be dressed daily and watched carefully.

Atropine is used as necessary to keep the ciliary muscle relaxed.

In case marked infection takes place, enucleate early thereby avoid much distress on the part of the patient, and possibly sympathetic ophthalmia.

If one is so unfortunate as to have a case where the foreign body is copper, stone, glass or splinter of wood there is not much choice of procedure for the operator.

The line of treatment then resolves itself into either entering the globe with small forceps and endeavoring to extract the foreign body with as little damage to the eye as possible, or taking the chance of nature's ability to encapsulate it, and rendering it in offensive.

While we must admit that this is a rather risky procedure, occasionally some very good after-results have been accomplished by this method.

Enucleation should not be delayed too

long, however, in case of very violent reaction.

I will relate as briefly as possible just a few cases, simply to emphasize the gravity attending penetrating injury of the eye ball.

G. T. Longitudinal penetrating wound of cornea at lower limbus, due to a one and one half inch square piece of sheet iron striking him in the eye. Iris was prolapsed, lense O. K. Iridectomy was done. Full recovery.

R. N. Struck in eye by rock thrown by another boy. Diagonal wound extending across entire cornea, through ciliary and three M. M. beyond, no prolapse. Eye ball removed on third day on account of panophthalmitis.

C. N. Gun shot wound through temple cut both Optic nerves. Piece of lead passed through each eye and nose. Double enucleation.

G. S. Struck in eye by chip of metal while cutting sewerpipe. Four M. M. scleral wound. Panophthalmitis followed by enucleation.

J. G. While whittling, knife blade incised eye diagonally passing through limbus and iris at both sides. Result blind eye.

A. H. While striking head of hatchet with hammer a chip from the head of hatchet passed through the sclera. X-ray indicated foreign body had passed on through eye ball. Four months later vision was normal.

W. B. Chip from cold chisel passed through cornea and iris close to limbus. Located just back of ciliary body. Complete recovery with normal vision, without removal of foreign body.

F. G. Piece of steel 11 x 4 x 3 M. M. passed through limbus, iris and lense. Removed from the vitreous chamber through original wound with Magnet. Eye blind.

E. O. While hammering hot iron a chip passed through cornea and iris into vitreous. Removed with Magnet. Recovery with 20-200 vision.

S. S. Chip from boiler makers tapering pin passed through center of cornea and lense. Lodged in back part of vitreous. Removed through scleral incision with magnet. Violent infection in initial wound necessitated enucleation on the seventh day.

R. W. While striking hatchet head with hammer, a chip of steel passed through cornea and iris beyond margin of lense continued onward through the eye ball and lodged eight M. M. behind the sclera posteriority.

This accident occurred July 19, 1923, and is still under treatment. Vision now, August 10th is 10-200.

The inflammatory reaction is subsiding and the indications are that we will not only save the eye ball, but retain a portion of the vision.

GLIOMA OF THE RETINA IN A CHILD  
AGED TWO YEARS. CASE REPORT.\*

By ADOLPH PFINGST, Louisville.

I would present a fresh specimen of an eye removed from a two-year old girl this afternoon on account of an intra-ocular growth—a glioma of the retina. The history in the case is that about 8 months ago the right pupil became enlarged and that a yellowish white reflex was noticed behind the pupil. The pupil has since grown larger and the reflex has changed to a golden yellow color. There had been no other symptoms but the parents believed the child was unable to see with this eye.

The family history was negative. She has one younger brother, one year old, with apparently normal eyes.

Examination showed a wide rigid pupil in the right eye with a bright yellowish mass showing in the vitreous, somewhat more pronounced on the nasal side. Blood vessels could be seen on its surface. The lens and cornea were clear. There was a decided increase in intra-ocular tension. The left eye was apparently normal.

The affected eye was removed under general anesthetic the day after the first examination.

Glioma of the retina is for the child what sarcoma of the choroid is for the adult. It is practically the only neoplasm which is found in the child. It is highly malignant in its character. Its clinical course has been divided as that of the intra-ocular growths of adults—into four stages; First, stage of development which runs over an indefinite period, usually four to eight months and during which there are no clinical symptoms except disturbed function. The second stage in which there is increase in intra-ocular tension. This is known as the glaucomatous stage. Owing to the elasticity of the eyes during childhood glaucoma does not always develop in these cases. The third stage in which the neoplasms leaves the confines of the eye ball, either along the optic nerve or the anterior ciliary vessels, and the fourth stage of metastases.

Microscopically, glioma tissue is made up of small irregular oval cells with rather large nuclei and a small amount of protoplasm. The tissue resembles the granular layer of the retina. By the use of a special staining method of Golgi, glia cells have been demonstrated in these neoplasms.

The prognosis in these cases is not very

good; however, if the eye containing the tumor is removed early, there is a chance for cure. I notice that Leber states that where eyes are removed early, 40 to 50 per cent of cases are cured. In this case I was able to remove quite a long piece of optic nerve and as far as can be judged microscopically, no extension of the tumor tissue had occurred.

## DISCUSSION

**S. G. Dabney:** I am a little dubious about the prognosis in glioma of the retina being favorable as stated by Dr. Pfingst. I am under the impression that glioma of the retina has a very different prognosis from sarcoma of the choroid. In the latter disease about 47 1-2 per cent of the patients die from metastasis, in 2 1-2 per cent there is recurrence in the orbit, in the remaining 50 per cent recovery ensues, according to Hirschberg. I believe retinal glioma offers a far less favorable prognosis.

The most interesting feature to me about glioma of the retina is the tendency to attack several members of the same family. I have seen one family in which three children had glioma of the retina, all fatal.

Another interesting feature is that frequently both eyes are affected. I am not sure by any means that the disease in one eye produces it in the other, but they are both frequently involved. Fuchs attributes it to a vice of development. I recall one instance in which both eyes were removed by me for glioma and fortunately the baby died soon afterwards. Though metastases occur the common cause of death is extension to the brain in contrast to sarcoma which when fatal is usually so by metastases.

The age at which retinal glioma occurs is one of its most marked characteristics; it is rare after the age of four or five years; in that respect it is parallel with sarcoma of the choroid which nearly always occurs in adult life. One is a disease of infancy and early childhood, the other a disease of adult life,—thirty-five years or over.

The diagnosis is usually very simple. The description given by Dr. Pfingst is typical. Pseudoglioma is due to meningitis far more frequently than any other disease. In many cases, however, there is no history of meningitis; the mother may state that the child had typhoid fever or some of the other common diseases, but in describing the symptoms we can usually conclude that the child had meningitis. It is true that in rare cases it does follow measles or other infectious disease.

**Adolph O. Pfingst (closing):** In the case reported the duration of the growth was only eight months. In removing the eye quite a long piece of it was removed while the neoplasm was

\*Clinical Report with exhibition of specimen before the Louisville Medico-Chirurgical Society.



confined within the eye ball, the optic nerve was included. While I agree with Dr. Dabney that the prognosis is not good, yet if the eye containing the tumor is removed early, as was done in this instance, there is a fair chance of permanent cure. Leber states that a cure results in forty to fifty per cent of cases following early enucleation, but like Dr. Dabney I consider these figures a little optimistic.

The other eye was carefully examined and so far as could be determined showed nothing abnormal.

### PREGNANCY COMPLICATED BY UTERINE FIBROMA: POST-OPERATIVE INTUSSUSCEPTION NEPHRITIS: UREMIA: FATALITY.\*

By L. WALLACE FRANK, Louisville.

H. V., a female, aged thirty-two years, married nine months, came under observation July 19th, 1923. Past history unimportant; influenza complicated by pneumonia during winter of 1922. Menstruation regular until four and a half months ago, since then amenorrhea.

Present illness began five weeks after last menstrual period, when patient noticed lump in right lower abdomen. At first this seemed about the size of a hen's egg; had since enlarged steadily and rapidly. The tumor was not distinctly painful, but she said there was more or less "aching" in that region. Her breasts were enlarged and appeared full. Appetite good; no indigestion; intestinal functions regular. She had complained of frequent headache during last five weeks. Pollakiuria present; nocturnal two or three; less frequency during day; no dysuria. No cardiac nor pulmonary symptoms. Some swelling of legs and feet noted during the last year.

Physical examination: Patient apparently a healthy young woman. Blood pressure 146-100. Head, eyes, ears, nose and throat negative. No enlargement of thyroid; heart and lungs normal; breasts full. Lower abdomen somewhat distended; uterus reaches umbilical level. On right side evidently attached to uterus was a hard nodule about four inches in diameter. Bimanual examination showed that this tumor moved freely with uterus.

The patient had been seen by four physicians before being brought to Louisville; all agreed in the diagnosis of pregnancy; two of them believed she had an ovarian cystoma;

the other two were uncertain about the nature of the tumor. We thought she might have a right ovarian cyst, but the hardness of the tumor was suggestive of uterine fibroma. The diagnosis of pregnancy was confirmed.

On July 20th, the day after admission, blood examination showed: Hemoglobin 85 per cent, erythrocytes, 4,500,000, leucocytes 10,300, differential count practically normal. Urinalysis: Reaction acid, albumin +, specific gravity 1017, otherwise negative. A two inch exploratory incision was made in midline below umbilicus. The pregnant uterus extended to above the umbilicus. In right cornu was a fibroma size of a grape fruit, and one or two small nodules in anterior wall. Nothing further was done on account of pregnancy; wound closed in layers; three silkworms gut stay sutures used.

Post-operative history: On July 22nd, two days after operation, the patient had a slight nasal hemorrhage. The 24th she complained of pain in left leg, phlebitis developed, but there was no fever. The leg became considerably swollen, was elevated and suitable bandage applied. The 26th patient sat up in bed and the 28th was in in a chair. Pulse and temperature normal; blood pressure 150-96.

August 2nd, or thirteen days after operation, the patient began complaining of pain in back and abdomen, she also had nausea and vomited. The wound was dressed, healing complete, stitches removed. August 3rd she still complained of abdominal pain and was seen by Dr. Gavin Fulton in consultation. Nausea and vomiting persisted. Temperature 99.2 F., pulse 88. August 4th blood examination showed: Hemoglobin 95 per cent erythrocytes 4,500,000, leucocytes 8,400, polymorphonuclears 81, lymphocytes 19. Urinalysis: Reaction alkaline, specific gravity 1032, albumin ++, acetone 3 plus, diacetic acid 2 plus, indican 4 plus, pus 8 to 10 cells to field, occasional hyaline and granular casts. The patient was given an enema of milk and molasses without result except small amount of blood-stained fluid. During the afternoon abdominal distension increased, vomiting persisted, and that night Dr. Fulton and myself concluded that the patient had acute intestinal obstruction. The abdomen was again opened (August 4th) with the following findings:

Six inch incision through left rectus muscle near midline. There was considerable bloody fluid in the cavity. Examination revealed intussusception of about eight inches of first portion of ileum into itself some of which had become gangrenous. The mesen-

\*Clinical Report with exhibition of specimen before the Louisville Medico-Chirurgical Society, September 14th, 1923.

tery at this point is very short and could not be delivered through incision; it was ligated high in left quadrant. Clamps were applied and two and a half feet of ileum resected and end-to-end anastomosis completed. The patient was given 500 c. c. normal saline solution intravenously before being returned to bed. She reacted well from the operation. August 5th she was voiding two or three ounces of urine at a time and some intestinal peristalsis was noted. The following day there was definite peristalsis, she passed gas and feces, but the urine was diminished in quantity and she complained of dimness of vision. On the 7th she passed only two ounces of urine during twelve hours; there was no longer any abdominal distension; spontaneous abortion occurred. She was given 500 c. c. normal saline solution intravenously and 500 c. c. under the breasts. August 8th her temperature was 101 F., pulse 120. Very little urine was voided. She was given 1000 c. c. normal saline solution with 10 per cent glucose intravenously, also a dose of castor oil. Beginning August 7th hot packs were used twice daily and purgatives administered at intervals. On August 10th she seemed much improved, but on the 11th she became stuporous. Her blood urea August 8th was 115, on the 11th it had declined to 96. She gradually became comatose and died August 14th from uremia.

One of the most interesting features about this case was the high ileal intussusception which occurred without any apparent cause. We have frequently seen intussusception of the ileum into the large intestine, but in this instance only the ileum was involved.

The fatality is to be regretted but it was absolutely unavoidable. The complications of nephritis, toxemia of pregnancy, and two anesthetics within a relatively short time, proved more than the kidneys could withstand.

#### DISCUSSION.

**Gavin Fulton:** The case reported is exceedingly interesting from several points of view. The intussusception was very high in the ileum; it occurred without apparent cause following the primary operation; it had no connection whatever with the large intestine. The fact that the patient developed high blood pressure during her pregnancy leads me to suspect long before she had toxic nephritis.

The operation for intussusception was an emergency procedure: the patient reacted normally, passed gas and feces, the abdomen became flat, and she showed improvement for several days. She then developed severe toxic symptoms with the blood picture described by Dr. Frank. I believe death occurred from tox-

emia of pregnancy superimposed upon chronic interstitial nephritis. It was unfortunate that after making a satisfactory surgical recovery the patient should have developed fatal uremia.

**L. W. Frank (closing):** In a retrospective survey of the case reported the question arises whether abortion should not have been induced early; in fact, this was considered, but as it would have added another source of trauma we concluded it was best to wait.

#### ENDOCRINOLOGY IN GYNECOLOGY AND OBSTETRICS.\*

SCOTT D. BRECKINRIDGE, Lexington.

In the brief outlines of such a paper as this, no effort could be made to give more than the simplest sketch of the definitely proved facts concerning the endocrine influence in these two specialties. With this premise, an effort will be made to avoid, so far as possible, unproved or unaccepted theories regarding glandular action and to continue the discussion to these theories that are widely accepted or to those facts that have been established through practical experiment, more or less regardless of theory.

Without endeavoring to differentiate too minutely between the hormones of Starling, the hormozones of Gley and the chalones of Schafer, it is well to start with a rather definite idea as to just what the general indications and what the actions of organo-therapy are. We may broadly state that the indications are over-function, under-function, or altered function. Similarly, the actions are substitute, homo-stimulating, hetero-stimulating and, possibly, inhibiting. In addition to these definitely indicated and sought actions, there is a rather broad class of non-specific action which may be described as symptomatic. Finally, there is an application of glandular substance for diagnostic purposes.

In dealing with diseases peculiar to women and to the pregnant state, it would be only natural to look first to those glands peculiar to this sex. In the non-pregnant, these glands consist of the ovaries and the mammary glands. In the pregnant state, there are added to these the placenta and the corpus luteum, with the possibility that the fetus must also be considered in a somewhat analogous sense. It is well established that the ovaries are of prime importance in those glandular dystrophies occurring in the female and the activity of the mammary gland as a therapeutic agent in certain of these conditions is

\*Read Before the Kentucky Midland Association, Lexington.



of sufficient importance to justify any consideration that may be given to it. The relative importance of the placenta remains a mooted point, although it is strongly and rather convincingly championed by some authorities. The possession of an internal secretion by the true corpus luteum is now quite generally accepted. In regard to the possible secretory effect of the foetus upon the maternal organism, it is only desired to mention in passing the theory that the presence of the fetus is responsible for the inhibition of lactation, while the placenta is responsible for the marked development of the breast during pregnancy.

However, in granting to the peculiarly female glands the important position that is their due in the glandular disturbances of the female, we must not forget that the inter-relationship between the various glands of internal secretion is so intimate and at the same time so delicately adjusted that there can scarcely be such a thing as the confinement of a long continued disturbance to a single gland or pair of similar glands. It is owing to this interdependence that we find clinical evidence of over-activity of one gland accompanied by under-activity of others, or perhaps simultaneous under-activity of two or more glands. And it is in some of these pluriglandular syndromes that we find the greatest difficulty and, not infrequently, the greatest satisfaction. With these facts before us, we cannot entirely overlook the contributing or predominating importance of the thyroid, the thymus, the pituitary, or the adrenals in conditions where the presenting complaint is gynecological in character. In this discussion, the administration of testicular extract to women will not be advocated.

To the gynecologist, the class of conditions partially or wholly due to glandular malfunction most frequently presenting will fall under that long list of symptoms which have been descriptively used by generations in place of the actual disease conditions causing them. Among these the prime offenders are amenorrhea, dysmenorrhea, menorrhagia, and metrorrhagia. Of course, we all realize that the persistence of any of these terms as a final diagnosis is a confession of ignorance and might well be made more frank by the addition of the words "of undetermined origin." Amenorrhea is one of the symptoms of pregnancy, of hyperthyroidism, of pulmonary or other tuberculosis, of absence or non function of the ovaries and of various other conditions, but as with other symptoms of disease, it is inconstant in almost all of those conditions with which it may be associated, even including pregnancy. In a gen-

eral way, the same holds good for dysmenorrhea, menorrhagia and metrorrhagia. As symptoms, the terms are descriptive; as disease entities, they are non-existent.

As symptoms significant endocrinologically, they fall into the two classes of ovarian hypo-function and hyperfunction. Amenorrhea that is not due to some other definitely demonstrable disease may be said to be due to ovarian hypofunction. This same has been given as a causative factor in chlorosis, of which amenorrhea is a prominent symptom. So also may dysmenorrhea, not associated with definite inflammatory lesion or demonstrable mechanical interference, be considered the result of ovarian hypofunction. Both should receive ovarian glandular therapy. Whether or not the amenorrhea found at puberty, associated with the clinical evidences of hyperthyroidism falls into this same class may be open to question, but it is a practical, if empirical, fact that it frequently responds very promptly to ovarian therapy, both amenorrhea and hyperthyroidism rapidly improving under the treatment.

On the other hand, menorrhagia and metrorrhagia not ascribable to some definite disease entity such as local inflammatory disease or neoplasm or myxoedema, in other words the so-called "essential" or "myopathic" hemorrhage, may be considered as symptoms of hyperovarianism. Here the rational glandular therapy would consist in the administration of mammary or thymus gland, or both, as both are directly antagonistic to the ovary. The use of pituitary substance is proper for the same reason. It has been shown that the administration of thyroid is of distinct benefit in some of these cases. Whatever the explanation of this action, where there is no demonstrable hypothyroidism, the important fact after all is that such action does occur. It would naturally occur to one that thyroid medication is the rational treatment in abortive myxoedema and true myxoedema and that in relieving the disease it would relieve the genital symptom,—menorrhagia and metrorrhagia in the one and amenorrhea in the other. And such indeed is the case.

Next in importance to the preceding group, may be mentioned the adiposo-genital syndrome which, while not a common condition, is sufficiently so to deserve close attention from the gynecologist. It may be as well to interpolate for those not familiar with this condition that it is not peculiar to the female. As the name would indicate, the characteristic symptoms are marked obesity and either delayed development or atrophy of the genitalia. The most acceptable explanation of the pathogenesis of this syndrome

places its origin in a lesion of the posterior lobe of the pituitary body. It is also well to note that, in addition to the pituitary lesion or dysfunction, there is always clinical evidence pointing toward thyroid and ovarian insufficiency. The therapeutic indications are, in the order of their acceptance: (1) pituitary, positively indicated; (2) thyroid, in small doses, advised; and (3) ovarian, possibly beneficial.

There is one other definite syndrome that appears worthy of at least passing notice. This is the genito-adrenal syndrome described by Gallais in 1912. This may occur as one of two main types, either adrenal pseudohermaphroditism or adrenal virilism. These are, however, primarily of academic interest as they are very rare and are incompatible with long life.

Probably the commonest of the glandular disturbances with the mass of physicians is hyperthyroidism, or Basedow's disease, or exophthalmic goitre. There is probably no member of the profession, regardless of his special line of work, who has not been consulted by patients for one or another of the protean symptoms of this disturbance. There are some points regarding it which are of special interest to the gynecologist and obstetrician. The fact that it is frequently accompanied by an increased activity of the thymus may account for the genital atrophy sometimes found. It is also sound therapeutic advice to always try ovarian organo-therapy in this condition, when it makes its appearance during puberty or pregnancy or at the menopause.

The subject of endocrinology, as it specifically applies to obstetrics, unfortunately appears to be even more deeply steeped in vague and unproven theories than are the other branches of medicine. There are certain facts which may be safely accepted, as the activity of the corpus luteum, the hypertrophy of the adrenals, the activity of the breasts and the enlargement and increased function of the thyroid. But, in the analysis and application of the known facts regarding these glands, some quite questionable and unproven, if not untrue, hypotheses have been formulated. With such the ease with the better known and more thoroughly studied glands, it is not surprising to find even more confusing theories built about the parathyroids, the pituitary and even the placenta.

Taking one of the best known examples of empirical endocrinological research in the obstetric field, let us look at the corpus luteum treatment of hyperemesis gravidarum.

Dr. John C. Hirst argued that, as the ordinary nausea and vomiting of pregnancy was

worst during the first three months and terminated at about the time of the full development of the corpus luteum, therefore the administration of corpus luteum extract or substance would relieve the ordinary and the obstinate vomiting. First intramuscular and then intravenous administration was advised and most encouraging results were reported, —and are still being reported. At the same time, many of the independent observers were failing to get the large proportion of favorable results. What the consensus of opinion is today is hard to gather from conflicting reports. My own experience in a small number of cases runs about 25 per cent marked improvement; 50 per cent uninfluenced; and 2 per cent made definitely worse. Again, we have reports from Sargent and Lain of a certain cases of this trouble cured by adrenal organo-therapy. Bandley recommends the exhibition of thyroids in certain cases of habitual abortion, to aid what he calls the nesting of the fetus. I have personally had good results in one similar case that seemed possibly attributable to the empirical administration of corpus luteum.

The galactagogue action of the mammary was to me an accidental discovery, although it proves to be well recognized. In administering this substance for sub-involution, a marked increase in the milk secretion was noted. This has been repeatedly verified with subsequent observations. The present status of opinion in regard to the galactagogue properties of the glandular substances appears to be that mammary is a true stimulant to the flow rather than to actual secretion; and that placenta is on the doubtful list. My personal experience has been gratifying with mammary and disappointing with placenta. I have not employed pituitary in these cases.

Vassale has conducted an impressive series of experiments upon the partially parathyroidectomized female that have convinced him that eclampsia is of parathyroid origin. The similarity between spontaneous eclampsia in the pregnant woman and experimental parathyroid eclampsia in pregnant animals is such as to have convinced other writers than Vassale that this condition is indeed of parathyroid origin. The contention is that certain women have a relative parathyroid deficiency which may become exaggerated from various causes such as muscular fatigue, endogenous intoxication or demineralization during labor, pregnancy, or lactation.

In concluding, while emphasizing the fact that the subject of endocrinology is full of uncertainties and contradictions for the ma-



jority of us, it is desired to recapitulate certain fairly well established practical suggestions as to therapy.

1. In gynecological amenorrhea, ovarian therapy is indicated.

2. In non-mechanical and non-inflammatory dysmenorrhea, ovarian therapy is indicated.

3. In menorrhagia and metrorrhagia of the myopathic or essential type, mammary, thymus, pituitary and possibly thyroid medication, either singly or combined, are indicated. Ovarian therapy is contra-indicated.

4. In the adiposo-genital syndrome, pituitary therapy is indicated and can be advantageously combined with ovary and small doses of thyroid.

5. Certain cases of hyperemesis gravidarum are benefitted by the intravenous administration of either corpus luteum or adrenal therapy.

6. Hypogalactia is benefitted by the administration of mammary and it is possible that this may be advantageously combined with pituitary and placenta.

7. In all cases where the symptoms of hyperthyroidism appear at puberty or the menopause or during pregnancy, ovarian therapy is indicated.

**Oyster Bay Stirred By Diphtheria Death.**—On March 28 a little child died of laryngeal diphtheria at Oyster Bay, Nassau County. Occuring as it did just at the time when the health officer Dr. James S. Hall, was urging upon the people of the community the advisability of having their children protected through the administration of toxin-antitoxin mixture, this sad death apparently served as an effective stimulus. Immunization of children under ten years of age is now going on actively. In a strong article which appeared in the Oyster Bay Pilot of May 2, it was stated that of the parents of the children in the school grade which the unfortunate child had attended, one hundred per cent had decided to have their children protected. "The little martyr," Dr. Hall is quoted as saying, "has not died in vain."

**Effect of Alcohol on Patellar Tendon Reflex.**—Data were collected by Tuttle from twelve normal subjects in good health. The usual method of procedure was to allow each subject to deliver normal kicks for some minutes, after which various quantities of alcohol were given by mouth. The effect on the knee jerk was noted. Of the twelve subjects, nine showed augmentation, two depression and one no effect. The fact that the data showed a marked variation in the threshold for alcohol indicates that the dose was too small in case of the subject who showed no effect.

## RADIATION IN BENIGN AFFECTION OF THE UTERUS WITH A REPORT OF CASES.\*

By D. Y. KEITH and J. P. KEITH, Louisville.

The basis of this report is taken from our files and will include the following conditions:

1. Essential Hemorrhage of the Adolescent.
2. Essential Hemorrhage in the Child-bearing Period.
3. Post Operative Uterine Hemorrhage.
4. Hemorrhage of the Menopause or Uterine Fibrosis.
5. Uterine Fibroids.
6. Uterine Fibroids after Menopause.
7. Dysmenorrhea.
8. Endocervicitis.

There is no question of a definite place in gynecology for the use of radium in uterine hemorrhage, in the myopathic bleeding in young girls, in older patients, in uterine fibroids and in the excessive menstrual flow from sub-involution near the menopause. There is a question in the minds of many of the workers as to how the radium acts. It unquestionably has some effect on the endometrium, some on the muscle portion of the uterus as well as upon the ovary. This to our mind is demonstrated in the results obtained from a very small dose in the bleeding of the adolescent patient in which the time is so short and the quantity of radium so small that very few rays could reach the ovary.

### ESSENTIAL HEMORRHAGE OF THE ADOLESCENT

In this condition we have treated four cases, ages sixteen to twenty years, the average being seventeen and one fourth years. The duration of symptoms was from six months to four years' time, the average duration being two years and nine months. The dosage was from forty-two milligram hours to four hundred milligram hours. Only one of the cases required a second dose and at present all are free of symptoms. In the first case twenty-nine months have elapsed since the treatment, a normal menstruation being established six weeks after the treatment. In the others a normal menstruation was established within four weeks. The duration of the stay in the hospital for these patients was from twenty-four to forty-eight hours' time.

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.

These patients had been subjected to all the various glandular extracts separately and in combination. One had had several local applications, had had a curettage and an abdominal operation to correct a faulty possibility without relief.

As a rule in these cases an amenorrhea is established for one or two menstruations following curettage and then the flow again becomes continuous. If a hypo-secretion of the ovary is causing the abdominal bleeding ovarian extract should give relief. Should the continuous bleeding be due to an excessive ovarian secretion the flow will increase if ovarian substance is administered. In one of our cases bleeding was greatly increased after ovarian extract was given.

In three of these patients a gas anesthetic was required and in one no anesthetic was given, the greatest pain being due to the dilatation of the vagina.

All of the above cases have been seen or heard from in the last few months and are in excellent health.

#### ESSENTIAL HEMORRHAGE IN THE CHILDBEARING PERIOD.

In this division seven cases were treated, ages from twenty-one to thirty-four years, the average being twenty-five and one half years.

Two of them received anesthetic. The others were not anesthetized. One we failed to trace. The others are free of symptoms. In one case a second dose was required. The first dose given was two hundred milligram hours in which improvement was noted and a second application of four hundred milligram hours has given relief.

Two of these cases had been subjected to curettage and abdominal operations with a Gillium or some type of suspension operation on the uterus and one had had a resection of one ovary with a suspension operation. Neither had received any relief and both were bleeding continuously when seen by us. The duration of symptoms in these cases was from six months to four years, the average being fifteen months. The dosage was from one hundred and twenty-five to nine hundred and twenty-five milligram hours, the average being three hundred and fifteen milligram hours. The average is higher than in the previous cases as one case, age thirty-four, who had suffered with dysmenorrhea since the menstrual function had been established, required nine hundred and twenty-five milligram hours as a permanent menopause was desired. This patient received two applications of x-ray and one application of radium. The others received radium only.

These patients have been heard from in the

last few months. They are free of symptoms and have been dismissed as cures except one who received two doses. She is free of symptoms though under observation. A normal menstrual function has been established in all except the one who was given a large dosage to bring on a permanent menopause.

The average time these patients were in the hospital was about forty-eight hours and when you consider that the only relief offered was a hysterectomy you can begin to consider the value of radium. There was little or no pain, no loss of time, no morbidity, no mortality, no post operative suffering, no mental fear or apprehension of a fatality.

In these two classes glandular extracts should be given a trial, many or all of those with hypo-ovarian function should be improved or cured. It is needless to say in the cases of hyper-secretion they will bleed more freely if ovarian substance is administered. In many of the cases it will make the diagnosis of a hypo or hyper-function of the ovary.

#### POST OPERATIVE UTERINE HEMORRHAGE

In this class are found ten cases which have been subjected to a removal of one or both tubes and the greater portion of both ovaries; are of the infected type of case in which uterine hemorrhage is present as a post operative symptom. The only way for these patients to obtain relief would be a hysterectomy which is not courted by them so soon after an abdominal operation for pus tubes. The age of these patients was from thirty to forty-four years, the average being thirty-four years.

In six of these cases x-ray only was given as there was a probable pelvic infection present. One had a vaginal fistula from a pelvic abscess which had closed. This patient has gained in weight and is in excellent health. One had x-ray and radium and the other three were given radium only, a permanent menopause being desired in every case.

These cases have been traced for more than twelve months after treatment and are free of symptoms, enjoying excellent health, which we know is much better than an abdominal operation or hysterectomy and much easier for the patient as only one of these patients required an anesthetic, she preferring the use of radium on account of the nausea experienced from the first dose of x-ray. This patient was also a thyroid case and exceedingly nervous. The majority of these patients were operated upon by skillful surgeons and received unquestionable skill and surgical judgement. A removal of an infected uterus at the primary operation would have



been disastrous or at least a hazardous risk.

#### HEMORRHAGE OF THE MENOPAUSE OR UTERINE FIBROSIS

In this class seventeen cases were treated and a physical examination of the pelvis revealed no palpable pathology. In this type of case either bleeding continuously or profuse bleeding at menstruation with dysmenorrhea were the only symptoms. The ages in this class were from thirty-four to fifty-four years with an average of forty-four and one sixth years. The duration of symptoms was from three weeks to four years, the average being sixteen and one half months.

Nine of these patients received radium only, four x-ray and radium, and four x-ray only. In two of these cases a proeidentia was present and there has been enough contraction that the extent of the prolapse has been greatly reduced. Polak (1) reports several cases of fibrosis treated in this way later operating for the cure of the prolapse, the uterus being interposed under the bladder with resulting cures of the desensus. It is not necessary to remove all the endometrium as a permanent menopause has been established.

In only one of the above cases has an anaesthetic been required, the average stay in the hospital being five days. Some of these cases had bled so freely and over so long a period that they required rest which increased the time in the hospital. In some of the above cases the hemoglobin was as low as twenty to thirty per cent with a red count of less than two million.

#### UTERINE FIBROIDS

In this class sixty-one patients have been treated, twelve of them had large uterine fibroids, i. e., larger than a four months pregnancy. The ages were from thirty-eight to fifty-two years, the average being forty-four and one half years. The duration of symptoms was from one month to six years. Bleeding was the predominating symptom in thirty-four cases, sixty percent. In the twelve large cases operation was contraindicated beyond any doubt, was a very hazardous risk, or was refused by the patient.

The largest fibroid treated was seen in November 1920. Thirty-three months have elapsed since the treatment was instituted. The patient is well at present and free of symptoms. In this case surgery was contra-indicated on account of the physical condition of the patient, having a heart lesion with ruptured compensation. There were many nodular tumors in the abdomen and one sub-

serous pedunculated one occupying a position under the costal margins on the left side. Either type was considered a contra-indication to radium. This case was beyond medical or surgical aid. As death was quite sure without treatment, her physician and husband insisted on giving radiation therapy a trial. Her improvement was rapid, within three months the multiple tumors had reduced fifty per cent in size and she was able to do all her housework. Within seven months' time after treatment the tumors had entirely retrogressed and were not larger than a man's fist. Very large doses were given as we and the referring surgeon thought it to be a rapidly growing sarcoma. Such results make one a very enthusiastic advocate of radium.

This patient was heard from within the last month and at present weighs one hundred and eighty-five pounds and free of symptoms. This case was previously reported (2). Should she have a recurrence sarcomatis to be considered as a positive diagnosis.

In the above cases seven were given an anesthetic of which we believe only four were absolutely necessary. There was no mortality and has been no morbidity. The tumors have regressed in all of these cases except in two of the very large ones which have reduced about fifty percent in size. As neither one of these was a surgical risk, one having a blood pressure of two hundred and eighty and the other a heart lesion, they are very well satisfied as the tumor is not noticeable as they are both very large women. We do not doubt that either one of these cases would have been lost had surgery been attempted.

Two of the patients with small symmetrical fibroids, the size of a four months pregnancy, have had an abdominal operation. One of them sixteen months after the radium was applied was operated on by Dr. E. S. Allen for removal of gall stones. The uterus was found to be of normal size. The patient had been free of symptoms since one month after the application of radium as only one menstruation appeared after the radium was applied.

The other patient age thirty-four years who had a fibroid the size of a large grapefruit with profuse and continuous hemorrhage was operated on thirteen months after the first application of radium and six months after the second application for a tubo-ovarian abscess by Dr. Irvin Abell. The uterus was of normal size. This patient had had such profuse hemorrhage that her hemoglobin was only twenty per cent before the first appli-

cation was given. She had her second application of radium as menstruation re-appeared four months after the first application. The second application was made seven months after the first, the symptoms of pelvic infection occurring ten days after the second application though she was not operated on until six months following. This patient was seen a few days ago and is free of symptoms. The menstruation was established again six months ago and has been normal in character and amount.

Five cases of pedunculated sub-mucous fibroids presenting in the vagina have been treated, the sub-mucous fibroids being ligated and amputated or amputated and packed without ligation. These cases could probably have been cured with surgery alone but we feel it is much safer and certainly a surer prognosis to make a radium application and be assured that the menstruation will cease, and should any small submucous fibroids be present they will disappear. These cases have all been near the menopause. A cessation of menstruation was desired and attained.

#### FIBROIDS IN YOUNG PATIENTS

Five cases of fibroid were treated between the age of thirty and thirty-seven, the average age being thirty-three years. One of these was given a small dose to reduce the fibroid without causing a cessation of the menstrual function. She was later operated upon and did not wait long enough for results. One had such profuse hemorrhage that an operation was considered a hazardous risk. One was a case in which a heart lesion complicated surgery as a ruptured cardiac compensation had occurred. One, age thirty-seven, had had a heart lesion since twelve years of age, and she was so near the menopause age that radium was advised as surgery would probably have been hazardous. She also refused any surgery as two members of her immediate family had recently died from a hysterectomy. We do not advocate the use of radium under thirty-eight years of age unless there is some contra-indication to surgery or an attempt is made to reduce the tumor and preserve the menstruation in the hope of subsequent pregnancy. Pregnancy has occurred after such treatment. Many cases are reported in the literature.

#### FIBROIDS AFTER MENOPAUSE

In this class seven cases have been treated in which a small fibroid was present from two to five years following the menopause. A negative curettage for malignancy was present in these cases. They were given both

radium and x-ray and given a carcinoma dose instead of a fibroid dose as the ovarian function was not to be considered in anyone of this age.

#### DYSMENORRHEA

In this class twelve cases are included. In ten a permanent menopause was desired and excellent results were recorded in all, the patient returning to normal health in a short time. Some of these poor sufferers have experienced perfect health for the first time since the menstrual function was established. The relief of dysmenorrhea in patients approaching the menopause has proven very satisfactory using either x-ray or radium.

Two cases, ages twenty-six and thirty, in which membranous dysmenorrhea was present a small dose was given (one hundred milligram hours) to see if there would be any definite change in the type of menstruation. These two cases are recorded as failures as no change was noticed in the character of the membrane expelled or any decrease in the amount of the pain. In one of these, who was a tubercular patient, a larger dose has been given to bring about a temporary menopause. She is at present under observation.

A few cases of dysmenorrhea have been reported in the literature in which following radium application a normal menstruation has been established free of pain after a temporary menopause of several months. Small doses of radium for temporary menopause in the hope of relief when menstruation is again established is uncertain.

#### ENDOCERVICITIS

Two cases of endocervicitis have been treated in which there was a persistent leukorrhea resulting from cervical inflammation. A cure is recorded which occurred by destruction of the glands and the substitution of fibrous tissue. In this type of infection the destruction of the cervical tissue is less than in any of the several forms of excision. No pain is experienced, no anesthetic required, and no loss of time as the application is for only a few hours.

In the bleeding following some pelvic operation, hemorrhage at menopause, uterine fibrosis and uterine fibroids the dosage depends upon the age of the patient, the size of the tumor and the character of the menstrual function which is determined by studying each case closely. From fifty to one hundred milligrams of radium were used, the filters being either brass or silver covered with rubber or paraffin. Any of the results we have recorded can be accomplished



with fifty milligrams of radium in the small cases and this amount with the addition of properly applied x-ray in the larger uterine fibroids. In the uncomplicated fibroid the same results can be recorded from either radium or x-ray.

In our previous report in which eighty-nine cases of uterine hemorrhage or dysmenorrhea were collected x-ray only was used and only one failure was recorded. This patient had a uterine fibroid the size of a four months pregnancy. She became so nauseated with her second series of x-ray that she submitted to operation. With our present arrangement in which the tube, machines, etc., are in a room separate from the patient, there has been little nausea experienced. One patient treated one year ago with a voltage of 200,000 or more is the only patient we have treated with x-ray alone using high voltage. A procidentia was present from a third degree perineal tear and there was so much fibrosis from a tear in the cervix laterally that we were unable to apply radium intra-uterine. A uterine sound could not be introduced. This patient was forty-four years of age. Surgery was contra-indicated for several reasons, namely; A tubercular chest, a marked dorsal Potts and a double heart lesion. This patient received four hours x-ray, two hours being applied to the anterior pelvis and two to the posterior pelvis; at an anode distance of twenty-two inches using one millimeter of copper, one millimeter of aluminum as filters.

When she was seen two months after treatment there was a marked reduction in the size of the tumor. When seen six months after the application of x-ray the fibroid had entirely disappeared. The tumor before treatment filled the entire pelvis and was accompanied with bleeding and on two or three occasions there had been urinary retention requiring catheterization for relief. She is at present free of symptoms. In this type of patient surgery evidently would have been disastrous.

From our results obtained in myopathic bleeding in young girls and the idiopathic bleeding during the childbearing period there is no doubt in anyone's mind that radium is the treatment of choice as it has proven a near-specific.

In the future few if any cases of either type will be subjected to surgery. We believe they should have the benefit of glandular therapy if there are any symptoms that suggest which one of the extracts are indicated. The dose is so small there is no danger of producing an artificial menopause. In a purely hypo-secretion causing bleeding, ra-

dium would be of no benefit and would probably increase the flow unless a temporary menopause was established.

In uterine fibrosis or hemorrhage at the menopause where a permanent menopause is to be established, radium is the treatment of choice though the same results are to be accomplished with properly applied x-ray. Radium is easier, results quicker for the patient than x-ray. Few, if any, failures are recorded in this class of patients. It is probable that the failures are due to improper selections of cases rather than the method.

In the profuse bleeding that accompanies many sessile submucous and intra-mural fibroids causing great anemia, surgery is exceedingly hazardous. Radium should be used to check the bleeding and render the patient a good surgical risk provided the tumor does not entirely disappear. The reduction in these cases in three to six months is unbelievable to anyone who has not had the privilege of watching a patient after radium treatment. These cases never require anesthesia as the uterus is nearly always found to be boggy, the cervix dilated, and convalescence is usually rapid. While in surgery mortality is high and complete convalescence slow.

From our results in the treatment of large fibroids and the smaller nodular subserous tumors in which surgery was contra-indicated the best interests of the patients would be in treating most all cases with radium and operate upon the ones in which the tumor does not disappear. We have failed to see any case in which menstruation was not terminated, that the tumor was not reduced at least fifty per cent in size or to completely disappear. Only a few days (three or four) are required in the hospital.

Many of our cases have been self supporting women who received treatment on Saturday and returned to work on Monday, have lost no time and have a complete disappearance of their uterine fibroid with freedom of symptoms.

We recognize and believe all of you have or will in the future recognize that uterine fibroids may be successfully removed with radium, x-ray and abdominal hysterectomy. It then remains for all of us to use the safer and easier method for our patients. All of you who have watched a few uterine fibroids disappear as we have will appreciate the sincerity of Dr. Rudolph Matas who says:

"Personally I would express my conviction in regard to the superiority of radium, by saying, that in the case of one of my family, my wife, my daughter, or some one over whom I have authority, or for whom I felt a

direct responsibility, I would unhesitatingly look to radium as my first choice."

Beclere (3) reports seven hundred cases of uterine fibromyoma treated with x-ray in which only one per cent required operation. Some of this series are traced over a period of seven years, permanent cures resulting.

Hanks (4) of Chicago recently reported one hundred cases with no failures in uterine fibroids treated with x-ray only.

#### ADVANTAGES OF RADIUM

If proper selection is made the advantages of radium are briefly:

1. There is no mortality, no general anesthetic. There is prompt control of uterine hemorrhages and no post operative pain or complications.

2. Should radium fail operation is not complicated.

3. Menopause symptoms are gradual, not as abrupt as in the removal of the ovaries.

4. Nearly complete reduction of the tumor in sixty-five per cent to eighty per cent of cases.

5. In heart lesions, extreme anemia, kidney lesions or diabetes radium is the treatment of choice.

6. No post operative abdominal adhesions or shock to the general nervous system as in hysterectomy.

7. Complete recovery is much shorter with much less time spent in the hospital.

#### DISADVANTAGES OF RADIUM

1. Subserous nodules may be left with no blood supply and may give trouble.

2. Malignancy may be present.

3. Complications of tubo-ovarian disease that may be overlooked. This can be overcome by careful history and competent pelvic examination. If the diagnosis is in doubt do not use radium.

#### SUMMARY

In adolescent bleeding radium is superior to any other treatment known in medicine. In essential hemorrhage or profuse bleeding during the childbearing period radium is the treatment of choice. In young women under the age of thirty-eight who have fibroids, surgery is preferable to radium. When the childbearing function is to be retained more myomectomies can be performed as the patient can be assured that the bleeding can be controlled by small doses of radium with a possibility of a future pregnancy.

In young women where surgery is contra-indicated radium can be used with perfect results and the nervous phenomena of a sud-

den menopause can be overcome by animal extracts. In fibroids that are complicated with infected tubes radium is contra-indicated, however, relief can be obtained from x-ray.

In the rapid growing fibroids or in the large fibroids where bleeding has been profuse radium should be given to reduce the tumor and make operation much easier from a technical standpoint as well as to render the patient a better risk should the tumor not entirely disappear. A very high percentage of the very large ones completely disappear or show great reduction.

In our experience the only types of fibroids that are not materially reduced by radiation are the purely fibroid ones, the sessile subserous, and the ones that are undergoing calcareous change.

#### REFERENCES

1. Polak, Medical Record. CI—493-4 March 25, 1922.
2. Keith, D. Y., Kentucky Medical Journal, February, 1922.
3. Beclere, M. American X-Ray Journal, abstract. April, 1923, page 339.
4. Hanks. The Journal of Radiology of North America. February, 1922, page 50.
5. Matas, Rudolph. American Roentgen Ray Journal. September, 1920, LXVI, page 441.
6. Babcock, Wayne.
7. Kelly. Therapeutic Gazette. November 15, 1922.
8. Keith, D. Y. Kentucky Medical Journal. February, 1922.

#### DISCUSSION

**S. S. Brown, Mt. Ash:** I am only a general practitioner and I have never used radium but I have seen it used a great deal. I have been following up these cases for a few years. I think there is one point on which the general practitioner can agree, and that is that radium is certainly indicated in all inoperable cases of carcinoma of the uterus. We have a woman down in our country who was pronounced as having an inoperable carcinoma of the uterus. She had radium used a year ago in Baltimore without any return of the symptoms.

Last year in New York I saw radium used a great deal at the post graduate medical school. We never recommended it in any cases of fibroid tumor, although we did recommend it especially in carcinoma of the uterus and in all cases of inoperable carcinoma of the uterus.

One woman was brought to the post graduate school in an ambulance and carried up the steps. Radium was used on this woman. Dr. West said she had an inoperable carcinoma of the uterus. This woman was in the hospital a few months and she left walking down the steps and went away having gained forty-two pounds. Quoting Dr. West again, he says this woman is apparently well and he says she thinks she is well but



the sad thing about it is that this will return in about three years and will take her life, but he did say this would prolong her life at least three years. If we are able to treat our patients in such a way that we can prolong their lives two or three years, I feel we have done a great deal for them.

**Louis Frank, Louisville:** Without having heard all of the essayist's paper I am loath to discuss it, but from the discussion I have heard there is a word or two I want to say. The first thing I would say, and I would say that because I think this society is largely made up of general practitioners, is that the general practitioner should not get the idea that every case of fibroid tumor is susceptible to treatment by radium or by radiation in any way at all. These cases must be very carefully selected. As one of the speakers has said, any inflammatory condition about the uterus or its appendages is an absolute contra-indication to its use and if used it may result very disastrously to your patient. I am of the firm conviction, speaking to what the last gentleman has said, that the time is coming when no case of cancer of the cervix will be subjected to the knife. In our own practice we have ceased absolutely to advise operation in any cancer of the cervix. We have treated some hundred cases or more of cancer of the cervix, and our results not only in the early cases but in the late cases are such that we have been forced to this conclusion. We have a number of cases that are living now over the six year period without any evidence of recurrence. Practically most of them can be healed clinically.

One other word, and I say this with due respect to the essayist, I am also of the very firm conviction that the best results are achieved with radium and with surgery in the treatment of fibroids at the hands of those men who have all facilities at hand for treatment. In other words, I think the man who has nothing but radium to offer his patient will probably be a bit prejudiced on the matter in its favor while he who has no radium will be favorable to surgery. We must not get the idea, as I previously said, that any case of fibroid that you see can be sent to the radiologist and treated. We reject quite a number and advise operation. There are some that are sent for operation in which we advise radium. With the most excellent results which have been obtained by surgery with the mortality as low as it is generally in all hospitals, in the perfected operation for fibroids of the uterus, I am not yet ready to say even that all cases in which a good result may be obtained so far as the fibroid is concerned should be treated by radiation alone.

**J. B. Mason, London:** Mr. Chairman, I enjoyed Dr. Keith's paper very much. In my discussion I shall limit myself to x-ray, as that is the only agent with which I have had any experience in the treatment of these conditions.

My results in those cases of bleeding at or near the menopause, cases of fibrosis, and in cases of bleeding during the child bearing period, have been as satisfactory with x-ray, I think, as one could expect them to be. My work has been limited to the older type of machine, that is the machine that would back up a nine-inch plus spark gap. I have had three patients with hemorrhages occurring during the child bearing period where I have brought about a temporary amenorrhea and those cases have later become pregnant and gone to full term and been delivered of children.

The hemorrhages appearing at or near the menopause are usually controlled by one to three x-ray treatments. My results in fibroids have not been so satisfactory. I have seen the tumors decrease in size. I have been able to control hemorrhage, but there has always been a lingering suspicion in my mind that any fibroid was liable to become malignant. In those cases I have usually suggested and insisted that they have surgery.

As to the bleeders, the age doesn't cut very much figure in the result which you secure. To my mind, it is purely a question of dosage. The woman of twenty-five or thirty can be relieved of her hemorrhage, not as easily, but just as surely as the woman of forty or forty-five.

Dr. Keith mentioned x-ray sickness in his paper in the cases in which he had used the x-ray. That I believe can be avoided practically always.

If it is necessary, you can split up your dosage, you can carry a half of your dose over a period of say five to seven days and by proper ventilation, avoid most of this trouble. I don't now see any x-ray sickness following these treatments.

**C. J. Broeman, Cincinnati:** I enjoyed the doctor's paper very much and would just like to bring out a few points that he no doubt knows as well as I do. It is a long subject and quite difficult for one to emphasize all the important points.

In treating bleeding in women who still want to have children you should do as the doctor says, always keep your dosage down to not more than fifty milligrams for five or six hours; this treatment can be repeated if necessary; but in cases near the menopause we always try to stop the bleeding with one treatment. Our treatment is to take a 50 milligram tube, place it into the uterine cavity at eight o'clock in the morning without an anesthetic and leave it in twenty-four hours. In about ninety cases out of one hundred that ends the whole story.

I have had considerable experience in fibroids. In one case in particular in which radium treatment was contra-indicated, as the fibroid was about the size of an eight months pregnancy, we were compelled to resort to radium because the patient's physical condition was such that no surgeon would attempt to operate on her, she having high blood pressure with a bad heart, besides being very fat, having absolutely no resistance. In this case we got a very satisfactory result and the patient is living and well today, three years having elapsed since her last treatment. In this case it was necessary to give three separate and distinct treatments. The first two treatments were given two months apart and the last treatment was given four months after the second treatment to relieve pressure symptoms which it promptly did. This is the largest amount of radium ever given in a fibroid case, but I see no reason why, judging from this case, it should not be given if the occasion arises. The fibroid had gradually reduced in size but is still the size of a small grapefruit.

There is one other point in regard to fibroids that we do not experience in other forms of radiation, that is a sickness that comes on the day the radium is removed, nausea and some vomiting is also present during the radiation. This sickness and toxemia is entirely different from the usual nausea and vomiting experienced in any form of radiation and is never noticed in the treatment of other conditions of the uterus such as carcinoma of the cervix. It is supposed to be due to a rapid protein absorption that occurs with the destruction of the fibroid. Sometimes these symptoms become quite alarming, patient will have a rising temperature, loss of appetite and is very much depressed. It is best to warn the patient and the doctor who refers the case that this is apt to occur. If the patient has been bleeding for a long while and is very much below par, it may take as long as two months to get over the effect of one radiation.

I had one patient from Knoxville, Tennessee, that came up with the intention of going home in a week and she stayed in Cincinnati two or three weeks and it was fully two months before she was able to go about her usual occupation.

We do not want to use radium where we have pelvic infection because it is apt to stir up an old chronic infection into a new one with serious consequence. That is one of the contra-indications that must be borne in mind.

The doctor mentioned leukorrhea, i. e., non-specific, persistent leukorrhea, in which he has used radium. I have used it in quite a number of cases, and here is one of the cases where we have to warn our patient that it may be even six or seven months before they get the entire benefit of the radiation. Improvement does not occur at once for the simple reason that we must

wait until the cervical glands have become entirely atrophied and when that occurs the leukorrhea will diminish and become almost nil.

---

## FORUM

---

### TUBERCULOSIS SANATORIUM

#### TO THE EDITOR:

Your letter relative to the State T. B. Sanatorium (Hazelwood) reached me in Cleveland this a. m.

As you know I have visited quite a number of such institutions in the past five years over the country. Not only have I carefully observed the location of buildings, construction of buildings and their arrangement but I have given critical attention to the medical officers in charge, their assistants and nurses, also equipment.

I can say without reservation that I am proud of our state institution. I regard Dr. Bates your medical superintendent, second to none in the country. His happy mixture of common sense with theoretical and technical knowledge is not frequently met with in institutional administration.

The moral responsibility of a physician is too great to assume charge of any physical disability that he is not fully equipped to handle. The handling of tuberculosis is a big problem unto itself, hence he should pass the responsibility to those who are especially trained in its treatment and have the equipment to give the best. As you know the earlier these cases get into the proper place under proper care the better.

As a citizen of Kentucky and a former public health servant therein I congratulate you for your efforts for the equipment and maintenance of this most needed institution.

Yours very truly

EDW. C. LAVERTY.

---

#### TO THE EDITOR:

Perhaps you would be interested in a bit of medical news which I think of sufficient importance to be published in our state JOURNAL and copied in other medical journals of the country.

Measles started among our students and having read of the use of serum from convalescents as a preventative for the disease I wrote the Rockefeller Institute asking if they could send a man to Berea to help us control our epidemic. They turned my letter over to the Research laboratory of the New York City Health Board. They were looking for a place where they could collect a



large amount of adult convalescent serum and the upshot of the matter was that they sent a man when our epidemic was over and he collected about 25 quarts of serum from our students and took it back with him to New York City for use in their work there. They came to us because they wanted adult serum and since most city dwellers have measles while they are very young it is hard to find adults who are convalescent. A further reason for coming so far was that our students are grouped where they can be easily reached and they are easily persuaded to cooperate. He landed here Saturday noon and left Sunday at 5 p. m. with his 25000 c. c. of human blood securely packed and shipped.

Their method of using the serum is at present as follows. To immunize the inmates of a large children's hospital they inject 3 c. c. of serum into every child. This will not entirely prevent the disease but will so modify it that the child is hardly sick at all. In this way all serious sequelae are prevented and still the child has developed an active immunity. If 6 c. c. are given the disease is entirely prevented but the immunity is entirely passive and lasts only 4 or 5 weeks so that the child will take the disease at next exposure. In private practice these facts are explained to the parents and the dose is given according to their desire.

At present they are collecting blood only from those who are not more than three months convalescent. Later they plan to try out blood from those who have had the disease one, two and three years ago to see how effective it is as a preventative. If it should turn out that the serum is efficient from those long convalescent the method might prove of great practical value in warding off the serious after effects of the disease and we would come to look on measles with serum about as we do diphtheria with serum.

Quite an experience for our students, wasn't it.

R. H. COWLEY.

#### RECIPE FOR LONG LIFE

Keep well!

That is the recipe for long life, as seen by Hygeia, popular health magazine published by the American Medical Association.

To keep the well person well is the most fundamental problem of the doctor, says the magazine in an editorial in the April issue.

Periodic health examinations are the solution of the problem of keeping people healthy, so that the development of serious conditions in those approaching sickness may be postponed.

#### BOOK REVIEWS

**Diseases of the Breast.**—By Willmott Evans  
This Work contains an account of the present state of our knowledge of the Malformations, Diseases and Surgery of the Breast.

Although the book deals with the whole subject, malignant disease, owing to its prevalence and importance, receives special attention.

The Work is freely illustrated with over 100 drawings, and 15 of them are reproduced in colour. London. University of London Press Limited, 17, Warwick Square, E. C. 4. Publishers.

**Fighting Foes Too Small To See.**—By Joseph McFarland, M. D., Sc. D., Professor of Pathology in the Medical Department of University of Pennsylvania. Illustrated with 64 engravings. F. A. Davis Company, Philadelphia, Publishers, Price \$2.50 net.

In a fascinating literary style and in non-technical language the author tells the story of how the fight begins against our unseen enemies and how it may be won.

**National Health Series.**—16 mo. full flexible Fabrikoid. Average number of words per volume, 18,000. Price per volume 30 cents. Complete set of 20 volumes \$6.00. Funk & Wagnalls Company, 354 Fourth Ave., New York City, Publishers.

The National Health Council in order to provide the general public with authoritative books on health at a low price have arranged for the publication of the above series. These twenty-books in convenient and attractive sizes contain all the phases of human health written by the leading authorities in the United States.

Every seeker of health, either for himself or for others, will be able to secure authoritative information in the National Health Series which he may follow in fullest confidence. The language is non-technical and easily understood. The volumes are compactly written, though at no sacrifice to clearness—a point of great desirability to the average person who does not care to take the time and trouble to read perhaps hundreds of pages of non-essential details or who will not bother trying to understand technical treatises.

**The Surgical Clinic of North America.**—(Issued serially, one number every other month). Volume IV Number 11 (Mayo Clinic Number—April) 1924) 295 pages with 88 illustrations. Per Clinic year (February, 1924 to December, 1924). Paper \$12.00; Cloth \$16.00 net. Philadelphia and London: W. B. Saunders Company.

In this volume the subscriber gets the clinical work of the leading surgeons of the Mayo Clinic.

**The Surgical Clinics of North America.**—(Issued serially, one number every other month). Volume IV Number I Philadelphia Number February, 1924. 302 pages with 90 illustrations. Per Clinic year (February, 1924 to December 1924). Paper \$12.00; Cloth \$16.00 net. Philadelphia and London: W. B. Saunders Company.

This volume is known as the Philadelphia Number and contains contributions from the leading surgeons of that city. Of especial interest are the reports from the Bronchoscopic Clinic of Dr. Chevalier Jackson.

**The Circulatory Disturbances of the Extremities.**—Including Gangrene, Vasomotor and Trophic Disorders by Leo Buerger, M. A., M. D., New York City. Octavo volume of 628 pages with 188 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, \$8.50 net.

This is the only treatise extant in which can be obtained a comprehensive insight into all the fundamental facts that bear on the fields covered. It is the first book that contains an authoritative description of thrombo-angiitis obliterans (Buerger's disease). In no other volume can be obtained such a clear knowledge of the differential diagnosis between the organic and neurogenic vascular affections of the extremities.

The work assembles in orderly fashion, analyzes and critically interprets the multitude of facts and clinical data bearing on the subject. It is really a summary of Dr. Buerger's eighteen years of research work in this field. It is complete, giving the anatomy and physiology of the nervous mechanism that control the vessels, the normal and pathologic local circulation, trophic functions of the nervous system, trophic diseases of the skin, thrombosis, gangrene, its forms, symptoms, clinical types, treatment; thrombo-angiitis obliterans, the clinical picture, symptoms, types, causes, diagnosis, treatment (prophylactic, conservative, operative, selection of therapeutic procedure); arteriosclerosis, aneurysm, miscellaneous affections of the arteries, phlebitis, embolism, vegetative nervous systems, the vasomotor disorders—all those diseases that are giving the physician much difficulty in clinical differentiation and management.

**Abt's Pediatrics.**—By 150 specialists. Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octavo volumes totalling 8000 pages with 1500 illustrations, and separate Index volume free. Now ready — Volume III containing 1051 pages with 223 illustrations. Philadelphia and London: W. B. Saunders Company, 1924 Cloth. \$10.00 per volume. Sold by Subscription.

The plan of the work is this: First are taken up such subjects as history of pediatrics, ana-

tomy and physiology, physiologic chemistry, metabolism, feeding, hygiene, the various forms of therapy, etc. Then the individual diseases are considered, not superficially, mind you, but exhaustively. But Abt's Pediatrics does not stop with medicine—it is just as complete in matters of surgery. It must be remembered that as the childhood organism differs from that of the adult, so does the surgery of that period. The pathology is different, the technic demanded is different. The child is not a small man!

**Operative Surgery.**—Covering The Operative Technic involved in the operations of general and special surgery. By Warren Stone Bickham, M. D., F. A. C. S. Former Surgeon in charge of General Surgery, Manhattan State Hospital, New York, Former Visiting Surgeon to Charity and to Touro Hospitals, New Orleans. In six octavo volumes totaling approximately 5400 pages with 6378 illustrations, mostly original and separate Desk Index volume. Now ready—Volume I containing 850 pages with 921 illustrations. Volume II containing 877 pages with Desk Index Volume. Volume 3 containing 1001 pages with 1249 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth \$10.00 per volume. Sold by subscription. Every branch of operative surgery is covered. These volumes not only tell what to do surgically but how it should be done.

Of the many features, there are three worthy of special mention. One "The Comments" following the detailing of the technic of each operation. These "Comments" record personal experiences with the operations described, point out factors which may influence the course of the operation and its outcome, and indicate refinements of technic designed to meet any special conditions that may present.

Then the illustrations: Of these there are 6378, the vast majority original and made by a large corps of artists directly and constantly under the exacting supervision of Dr. Bickham.

The indexing of the work marks a distinct advance in works of this kind. In addition to the Separate Index Volume, each volume has its own index; at the head of each chapter throughout the entire six volumes there is a classified index of the contents of that chapter, and the contents of each volume is stamped in gold on its back. It will be an easy matter, indeed, to consult.

## ERRATA

Under "News Items," Dr. Jones is mentioned with Dr. Perry as taking a post graduate course in bacteriology. This should be Dr. DAVIS and Dr. Perry.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

C. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. B. McCCLURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. MCMURTRY .....Louisville

W. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

### FOURTH DISTRICT

C. Z. AUD .....Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

R. C. McCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

F. A. STINE .....Newport

### NINTH DISTRICT

A. T. BRYSON .....Ashland

### TENTH DISTRICT

R. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

W. M. MARTIN .....Harlan

### SECRETARY-EDITOR.

ARTHUR T. MCCORMACK .....Louisville

### BUSINESS EDITOR

L. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

H. A. COTTELL .....Louisville

J. K. FREEMAN .....Louisville

### ASSISTANT EDITORS

#### UROLOGY

OWSLEY GRANT .....Louisville

#### DERMATOLOGY

S. A. STEINBERG .....Louisville

#### GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

#### PEDIATRICS

P. F. BARBOUR .....Louisville

#### GESTRICALS

EDWARD SPEIDEL .....Louisville

L. O. REDMON .....Lexington

#### EYE

ADOLPH O. PFINGST .....Louisville

#### EAR, NOSE AND THROAT

C. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

WERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

K. H. COWLEY .....Berea

#### ANESTHETICS

W. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Boyd:** The regular meeting of the Boyd County Medical Society was held at the King's Daughters Hospital, Tuesday evening, May thirteenth. The program was a paper on, "Nutritional Disturbances of Infancy."

The North Eastern Medical Society meets May 20th, at Pikeville. A number of Boyd County men will attend.

Our next meeting is at the Hotel Ventura, May 29th.

LESLIE H. WINANS, Secretary.

**Clark:** The Clark County Medical Society met in regular session March 21, at the office of the Secretary, the President S. J. Rose, in the chair. Members present, S. J. Rose, E. P. Guerrant, E. R. Cole, H. R. Henry, Richard Allen, O. P. Clark, W. A. Bush, Howard Lyon and G. F. Doyle, R. Julian Estill of Lexington, Councilor of the Tenth District, was present as the guest of the society. Minutes of the last meeting were read and approved.

G. F. Doyle presented a patient with a tumor of the left cerebello-pontile angle.

S. J. Rose read a paper on Splanchnic Insufficiency. Both the case presented and the paper by S. J. Rose were discussed by all present, after which the meeting adjourned.

G. F. DOYLE, Secretary.

**Third District:** The Third District Medical Society held the first meeting with the Warren County Medical Society on April 23rd, with the following members present: Woodard, Guthrie, Witt, Carman, Claypool, Douglas, Rutherford, Turner, Walter Byrne, Sr., Blackburn, Boyd, Strother, Hinton, Burr, Graves, Crittenden, Moss, Souther, Singleton, Reardon, Neel, Donnelly, C. E. Francis, Felts, Rau, Martin, Meredith, Carson, Drake, Fitch, Stone, J. E. Meredith, Cherry, Freeman, Howard, Grubbs, Adair, and C. C. Turner.

The following officers were elected: R. L. Woodard, President; W. A. Guthrie, 1st Vice-President; C. C. Turner, 2nd Vice-President and J. H. Blackburn, Secretary.

Clinical cases were reported by Dr. Guthrie and N. C. Witt of Franklin.

The program included a discussion of Bacteriology of The Pneumonias by N. C. Witt, Franklin; Symptomatology and Clinical Differentiation of the Pneumonias by H. M. Meredith, Scottsville; Surgical Complications of Pneumonia by R. L. Woodward, Hopkinsville.

After dinner at the Mansard, the program was concluded by an address on Cancer by Irvin Abell of Louisville.

JNO. H. BLACKBURN, Secretary.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.





# You, too, can now Administer Chlorine Gas

## The Following Record

compiled by Lt. Col. E. B. Vedder, M.D. and Capt. H. P. Sawyer, M.D. (Medical Corps, U. S. A.) shows the remarkable results secured by employing CHLORINE GAS for the treatment of respiratory diseases. (Reproduced from the A. M. A. Journal of March 8, 1924).

Diagnosis	No. of Cases	Cured		Im- proved		No Change	
		No.	%	No.	%	No.	%
Coryza . . . .	388	288	74.2	91	23.5	9	2.3
Acute laryn- gitis and pharyngitis	127	99	73.0	24	19.0	4	3.1
Acute bronchitis . .	241	192	30.0	47	19.5	2	0.8
Chronic rhinitis . . .	106	33	31.1	41	38.6	32	30.2
Chronic bronchitis . .	47	34	72.3	12	25.5	1	2.1
Chronic laryngitis . .	2	2	100.0				
Whooping cough . . . .	9	8	88.8	1	11.1		
Influenza . . .	11	9	81.8	2	18.1		
	931	665	71.4	218	23.4	48	5.1

for the treatment of common colds, influenza, bronchitis, whooping cough, laryngitis and other respiratory diseases. A portable self-contained machine makes this advanced practice available to all members of the medical profession.

## THE DOYLE Chlorinometer

TRADE MARK

makes possible the scientific administration of chlorine gas, in your office or the homes of your patients. No special rooms or preparations are needed. Just close the doors and windows of any room and set the "Chlorinometer" in operation.

The "Chlorinometer," simple and thoroughly reliable, has been created out of the experience of this Company's years of specialization in the designing and building of gas control apparatus. If used according to instructions, it cannot fail to give absolute satisfaction.



Each machine is accompanied by complete, detailed instructions which will enable any physician to secure uniformly successful results. The price of the "Chlorinometer," complete with polished walnut carrying case, latest model as illustrated, is \$60.00 F.O.B., New York.

Manufacturers and Sole Distributors

## Scientific Apparatus Co.

(A CORPORATION)

17 WEST 60TH STREET, NEW YORK CITY

Pioneers in the Development and Manufacture of Gas Control Apparatus for the Medical Profession



NEXT ANNUAL MEETING — LOUISVILLE, SEPTEMBER 22nd-25th

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 25 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., AUGUST, 1924

No. 8

## CONTENTS AND DIGEST

### EDITORIAL

DOCTOR SIMMONS .....	275
HAGGARD PRESIDENT .....	275
IN MEMORIAM, C. Z. AUD .....	275
HEALTH OF THE WORKER .....	276
TO FORMER ILLINOIS DOCTORS .....	276
LOUISVILLE HEALTH SURVEY .....	276

### SCIENTIFIC EDITORIAL

THE AMERICAN MEDICAL ASSOCIATION MEETING, By A. O. Pfingst. ....	277
---	-----

### SECTION OF LARYNGOLOGY, OTOTOLOGY AND RHINOLOGY OF THE AMERICAN MEDICAL ASSOCIATION, By C.

T. Wolfe .....	278
----------------	-----

### SPECIAL ARTICLE

OBSTETRICAL COLUMN, By Alice Pickett .....	279
--	-----

### ORIGINAL ARTICLES

SYPHILIS, By W. L. Mosby, Bardwell .....	285
ERYSIPPELAS, By H. T. Crouch, Bardwell .....	288

(Continued on Page V.)

## READY TODAY

# The New Mayo Clinic Volume

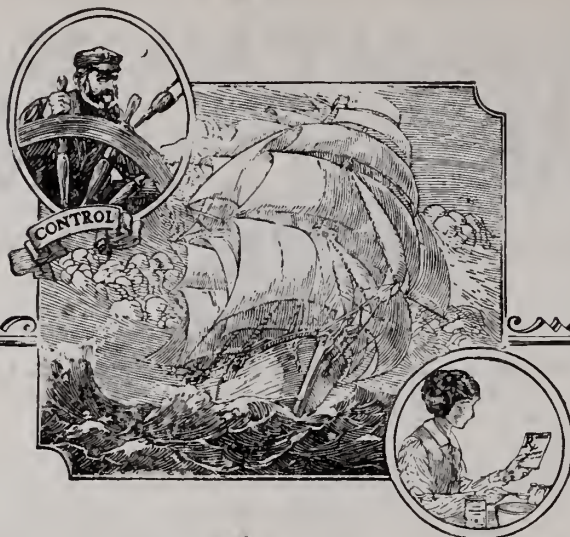
This new volume from The Mayo Clinic and The Mayo Foundation is one of the most practical volumes of the series. The surgery here detailed is not the surgery of theory but the surgery of *practice* in the amphitheater. But this volume is not all surgery, not by any means. There is very much in it of a definite value to the *general practitioner*. Take, for instance, the series of articles on *insulin*. There is one on clinical observations during the use of insulin; there is another on the action of insulin in the utilization of sugar in the body; there is another on the treatment of emergencies in diabetes, and an outstanding one entitled, "How is the Overworked General Practitioner to Use Insulin?" This latter goes thoroughly, and in detail, into everything the general practitioner must know in order to use insulin successfully and safely. It gives the effect of overdosage, and insulin shock; it gives the requirements for the successful use of insulin, the right procedures for adult patients, diabetic diet tables, insulin treatment of diabetes in children, giving dosage, diets, and everything necessary to the successful management of the case. It takes up the treatment of infections complicating diabetes and the treatment of acidosis and coma. Then there is an article on the value of *insulin in surgery*, pointing out how insulin properly used will permit operations on diabetics which before were contraindicated. And so on through nearly 1400 pages of practical material.

*Collected Papers of The Mayo Clinic and The Mayo Foundation.* By WILLIAM J. MAYO, M. D., CHARLES H. MAYO, M. D., and their ASSOCIATES at The Mayo Clinic, Rochester, Minnesota, and The Mayo Foundation, University of Minnesota. Octavo of 1377 pages, with 410 illustrations. Cloth, \$13.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London





# The Control of Infant Feeding

The Baby who is under a Physician's Supervision is like a Ship in the Hands of an Experienced Captain.

The ship is responsive to every turn of the wheel—the crew obeys every command of the captain—the *captain controls* his ship.

When the doctor prescribes a feeding formula on his own prescription blank the mother obeys his instructions, and the baby is responsive to his diet. Mead's Infant Diet Materials have no directions on the package to interfere with the doctor's prescription—the *doctor controls* his infant feeding *throughout the entire feeding period*.

## MEAD'S DEXTRI-MALTOSE

*Cow's Milk and Water*

Mead's Dextri-Maltose (Dextrins and Maltose) is assimilated by infants in greater amounts than other sugars before reaching the limit of tolerance and is less liable to cause digestive disturbances. Mead's Dextri-Maltose, cow's milk, and water, gives gratifying results in the majority of infants intrusted to the physician's care.

## MEAD'S CASEC

*Cow's Milk and Water*

Many physicians are finding protein milk helpful in their cases of summer diarrhoea. Protein milk made with Casec enables the mother to follow easily and accurately her physician's instructions—it will not clog the nipple. With Casec the percentage of protein can be governed by the physician at will.

*Samples of DEXTRI-MALTOSE and CASEC, together with literature describing their use will be sent to any physician on request.*

## THE MEAD JOHNSON POLICY

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & CO., EVANSVILLE, INDIANA, U. S. A.

163 DUFFERIN STREET  
TORONTO, ONT.



40 & 42 LEXINGTON STREET  
LONDON, W 1

MAKERS OF INFANT DIET MATERIALS

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., AUGUST, 1924

No. 8

## EDITORIAL

### DOCTOR SIMMONS.

Dr. George H. Simmons' retirement from the position of General Manager of the American Medical Association marks the end of an epoch in the affairs of the medical profession that is noteworthy in almost every respect.

When Doctor Simmons came to Chicago from Nebraska, the national body of the medical profession was in a chaotic state. Its Journal was less influential than many of the state journals now are and had a smaller circulation. Its pages were filled with the most vicious, misleading advertisements and its original articles were interspersed with reading matter equally bad. Had Doctor Simmons made no other contribution than the building of the great Journal of the American Medical Association, he would have merited the commendation, not of the profession alone but of everyone benefited by the progress in the science of medicine. In addition to being a great editor, Doctor Simmons has been a great executive. He has been able to gather about him the most influential men in American medicine and to carry the whole medical organization forward in a progress which has been so rapid that it defies the contemporary historians' attempt to describe it.

Approximately a thousand of the leaders of the profession gathered at a testimonial banquet to Doctor Simmons in Chicago on the evening of the opening of the general session of the American Medical Association in June, and such distinguished men as Thayer, Billings, Mayo and others showed the inadequacy of our language to express the achievements of a really great, constructive leader.

The profession will look forward to the choice of his successor with great anxiety. The danger of the selection of a mere routinist, who will simply carry on the organization as it exists, as contrasted with the distinct constructive service of Doctor Simmons, makes us all apprehensive, especially when coupled with the retirement of Doctor Bil-

lings from the Board of Trustees and the election as Resident Trustee in Chicago of a successor who is unknown to the national profession. The earnest support of Doctor Walsh, however, by his colleagues in Illinois, who should know him best, makes us hopeful that the Association will continue to occupy the strong position which it has maintained for the past twenty-five years.

### HAGGARD PRESIDENT.

Many friends of the distinguished and affable surgeon, Dr. Will D. Haggard of Nashville, will be delighted at his election to the Presidency of the American Medical Association at the Chicago session. It was a notable honor to be elected on the first ballot over the three other distinguished nominees, Drs. Seale Harris of Birmingham, Rudolph Matas of New Orleans, and W. S. Thayer of Baltimore. The vote was a testimonial to the standing of Dr. Haggard in the profession of America.

To the many members of the profession in Kentucky who know and love Doctor Haggard, his election will be an assurance of the same progressive administration of the affairs of the greatest medical organization in the world.

### IN MEMORIAM DR. C. Z. AUD

Dr. C. Z. Aud died at the residence of his son, Dr. Guy Aud, in Louisville, July 15th.

Doctor Aud was the first resident of Cecilia. He was born in Daviess County on April 18, 1848. His father before him was a physician and his two sons and son-in-law are physicians. He graduated at the University of Louisville in 1868 and has since taken post-graduate courses in New York and Chicago. He was Chief Surgeon of the Illinois Central Railway system in Kentucky and was the dean of the company surgeons on this railroad, and probably the ranking railway surgeon of the country.

Doctor Aud was Councilor for the Fifth District for twenty-five years; was a member



of the State Board of Health for eighteen years; health officer of Hardin County for twenty-eight years. He was the President of the State Bank of Cecilia and director of the Union Bank and Trust Co., of Elizabethtown. He was President of the Kentucky State Medical Association in 1906. For forty years he was intimately associated with Dr. J. N. McCormack in his health and medical organization work. He and the late Drs. W. W. Richmond and McCormack were the Committee representing the State Medical Association which brought about the amalgamation of the seven existing medical schools in Louisville into one medical department of the University of Louisville. This was done with the self-sacrificing cooperation of the medical men who were deans and members of the faculties of these schools, who each sacrificed thousands of dollars in their desire to promote the public welfare through better medical education. During the World War Doctor Aud was a member of the District Selective Service Board of Kentucky.

Judging him either by his public career, by his professional life or as a private citizen, Doctor Aud was a great man, a loyal, faithful friend, a splendidly qualified general practitioner of medicine, a christian gentleman. His life was a most useful one and he will be an inspiration to all who knew him and all who read his story in the medical history of Kentucky.

---

#### HEALTH OF THE WORKER.

With the cooperative supervision of the National Health Council, the well-known publishers of New York, the Funk and Wagnalls Company, have published a series of pocket editions on the several health problems. There are twenty volumes with an average number of seventy pages. The price for the entire set is \$6.00. The JOURNAL frequently receives requests from its readers for advice as to securing publications that will give them concise information as the basis for addresses. This series of books is ideal for this purpose. They are not only well worth reading for the physician but they are written in plain English so they can be understood by any intelligent person who reads them.

The most recent addition to the series is the "Health of the Worker—How to Safeguard it"—by Lee K. Frankel, the Second Vice-President of the Metropolitan Life Insurance Co. It is a very practical and interesting book; has an introduction by Samuel Gompers, the distinguished President of the American Federation of Labor. It covers working conditions, process hazards and keep-

ing the worker fit. While every physician should read this remarkable, practical, little book, it is especially commended to those of our number who are connected with industrial organizations, manufacturing establishments, coal mines and quarries. It will greatly help the physician at such plants if they will purchase copies for their superintendents, foremen, and heads of the labor and organization. This particular book can be purchased for 30c each and we feel sure that it will be worth much more than that many dollars to every thoughtful reader.

---

#### TO FORMER ILLINOIS DOCTORS.

The Committee on Medical History of the Illinois State Medical Association, No. 6244 North Campbell Avenue, Chicago, desires to get in touch immediately with any and all doctors, former residents of Illinois, or descendants of pioneer physicians of the "Illinois country."

Under the sponsorship of the Illinois State Medical Society there is in preparation "A History of Medical Practice in the State of Illinois" that must go to the printer at a very early date. In order that this volume may be accurate and complete all possible assistance is asked from every source, as to personal data and experiences, including diaries, photographs and similar documentary mementoes of pioneer Illinois doctors and of progressive phases of medical practice as well as fields other than those of medical science.

---

#### LOUISVILLE HEALTH SURVEY.

While Kentucky has had many studies made of social educational and health conditions, the survey now being made of the health and hospital facilities in Louisville, under the direction of Dr. Haven Emerson, promises to furnish facts of special interest to the physicians of both the city and the state.

The Louisville Community Chest is to be congratulated on its wisdom in securing the most eminent authority on community health in the nation to make this study for Dr. Emerson is recognized as the leading expert in the field of community health stock taking and community planning for health promotion. As a health engineer he can tell us "Where we are, where we want to be and how to get there."

Louisville's Welfare League established the notion of central responsibility for the expenditure of voluntary contributions, now manifested in the Community Chest. It is

expected that in the health field this study will result in the setting up of some central guiding direction of health undertakings as the Chest's conception of its obligations is that it not alone supplies the funds to meet needs, but also encourages definite programs for improved service. The sentiment in the one hundred and fifty cities of the country in which there are now community chests is giving added emphasis to the question raised by those responsible for the collection and expenditure of these large sums—"Is it right to ask people to give money for half way programs that do not adequately meet our cities' health needs."

To be a success the Health and Hospital Survey must have the cooperation of every physician, health agency, hospital and social organization and public support and understanding.

Dr. Emerson, who is Professor of Public Health Administration of the College of Physicians and Surgeons of Columbia University, is not only in the vanguard of public health leaders but is also one of those rare individuals who can interpret scientific medical achievements to the public. His study brings opportunity to Louisville's physicians to participate in community health planning as, through personal conference and a letter of inquiry, he is inviting expressions of personal opinion from the members of the profession regarding problems of service both to the sick and the well. In this connection mention should be made of the low percentage of replies received by Dr. Emerson to his letter of inquiry to the physicians of Louisville and Jefferson County, only 18 per cent having replied at this writing.

It is Dr. Emerson's intention to present his findings and recommendations to the Jefferson County Medical Society in the Fall, prior to the publication of his report. The Survey Committee of the Community Chest, which includes, Dr. David C. Morton, Chairman, Charles W. Allen, Alex. G. Barret, Victor Burger, A. Y. Ford, Mrs. Churchill Humphrey and J. C. Murphy, has asked the following physicians to act as a Medical Advisory Committee to confer with Dr. Emerson on his report:

Dr. J. B. Lukins, Chairman; Dr. Irvin Lindenberger, Dr. John Walker Moore, Dr. Leo Block, Dr. William E. Fallis, Dr. Arthur T. McCormack, Dr. Ellis Owen, Dr. Philip F. Barbour, Dr. Heman Humphrey, Dr. E. L. Henderson, Dr. Geo. A. Hendon, Dr. Virgil Simpson, Dr. Stuart Graves, Dr. Irvin Abell, Dr. John R. Wathen, Dr. H. H. Hagan.

## SCIENTIFIC EDITORIAL

### THE AMERICAN MEDICAL ASSOCIATION MEETING.

The 75th Annual Session of the American Medical Association, at Chicago, June 10th to 14th, far exceeded any previous meeting, not only in interest displayed and in the class of scientific contribution, but also in point of attendance. The total registration was very close to 8000 or in excess of the largest previous total registration by approximately 1500. The Commercial and Scientific exhibits and all section meetings took place on the Chicago Municipal pier which is ideally adapted to a congress of this kind.

The main hall, as, one entered the promenade floor of the pier, was given over to the Commercial exhibit in which more than one hundred fifty firms participated. The displays were up to the usual standard of former A. M. A. exhibits.

The Eastern half of the main space was occupied by the Scientific display. This feature of the meeting has grown so that one could hardly do it justice in the between session hours devoted to it. The display included many fresh anatomical specimens, among them an exhibition of pathological specimens of lung tissue, illustrating all stages of tuberculosis and specimens showing heart muscle and valvular derangements. There were also demonstrations of cardiograph records, blood chemistry illustrations, Roentgen Ray exhibits, exhibits by the Illinois Society for Prevention of Blindness, etc. The gold medal for the best Scientific exhibit of the convention was awarded to Dr. E. J. Judah of the Mayo Clinic for his exhibit demonstrating the pathology of the ball bladder. The second prize was given to Dr. W. W. Duck of Kansas City and the third to Dr. Benjamin Terry, Nashville, Tenn.

The increasing popularity of the Motion Picture demonstrations was evidenced in the unusual attendance at the Motion Picture Theatre, the ever crowded amphitheatre almost precluding entry into the hall. A great variety of instructive pictures was exhibited. As an invocation in the movie display might be mentioned, the extra demonstration of heart murmurs, pulmonary sounds and fetal heart tones through the multiple electric stethoscope.

During the first days of the session, clinics were conducted in most of the hospitals of Chicago. The usual alumni and fraternity reunions and banquets furnished the greater part of the social feature of the meeting. The social climax, as usual, was the reception ten-



dered the President of the Association, who this year was a native son of Kentucky, Dr. William Allen Pusey, of Chicago.

The American Medical Association headquarters, 535 Dearborn St., kept open house during the four days of the meeting, personally conducted tours through the building having been provided so as to offer members the opportunity to inspect the printing presses, binding machines used in producing the JOURNAL and general offices of the American Medical Association.

The following officers were elected for 1924-1925:

President-Elect — William D. Haggard, Nashville, Tenn.; Secretary — Olin West, Chicago; Treasurer — Austin A. Hayden, Chicago; Speaker House of Delegates — Frederick C. Warnshuis, Grand Rapids, Mich.; Vice-Speaker House of Delegates — Rock Sleyster, Wauwatosa, Wis.; Board of Trustees — Term expires 1927.

Edward B. Heckel, Pittsburgh, Pa.

Thos. McDavitt, St. Paul, Minn., term expires 1928.

J. H. Walsh, Chicago.

Judicial Council — M. L. Harris, Chicago.

Council on Medical Education and Hospitals — Merrit W. Ireland, Washington, D. C.

Scientific Assembly — F. P. Gengenbach, Denver, Colo.

The House of Delegates expressed itself as favorable to Atlantic City as the place of the next annual session.

The Scientific work of the various sections was of a high standard and all sections were well attended. As the meeting places adjoined along the length of the pier, members could readily visit any section to which papers of special interest attracted them. The arrangement of the program so that kindred subjects would not conflict (some sessions meeting in the forenoon and others only in the afternoon) lent much to the interest of the meeting.

The Section on Ophthalmology had a registration of 500, perhaps the largest in its history. The custom of this section to publish a preessional report of all of the papers to be presented and a limitation of the essayist to ten minutes in which to present his paper in abstract, thereby doing away with the formal reading of the papers, always lends interest to the transactions of the Ophthalmological Section. The subjects discussed at this Section were perhaps more diversified this year than usual. If any one subject received more attention than others it was the visual field measurements and the rela-

tion of peripheric visual disturbance to general diseases.

Radium and its use in eye diseases evoked considerable interest, successes being reported of its use especially in vernal catarrh, a hitherto unmanageable disease.

The Section had as its guest, Dr. Harvey Howard, of Pekin, China, educated in America but now Professor at Pekin Union Medical College, conducted by the Rockefeller Foundation.

Dr. Marcus Feingold of New Orleans was chosen to preside as Chairman of the Section for next year.

A. O. PFINGST.

### SECTION OF LARYNGOLOGY, OTOTOLOGY AND RHINOLOGY OF THE AMERICAN MEDICAL ASSOCIATION

The recent meeting of the American Medical Association in point of attendance was the best ever held; more than 9,000 registered in the various sections.

Chicago, on account of its rather central location, offers itself as an ideal Convention City. The hotel facilities are adequate and most excellent. Its medical men are active and number among the best in the country. While the clinics were slightly wanting, this was intentional as it was the desire of the Association to have its members present at the section meetings. However, many worthwhile clinics were held.

All section meetings were held on the Municipal Pier. This pier compares favorably with anything Atlantic City has to offer, and while a little far from the center of the city, adequate transportation was available.

This section is one of the largest of the special sections of the American Medical Association and as usual was well attended, more than 500 having registered.

The meeting was called to order by the Chairman, Dr. Wendell C. Phillips, of N. Y., who delivered an address, with lantern demonstrations, on the American Medical Association. This address was very interesting as Dr. Phillips has for a number of years been a member of the Executive Committee of the Association and is in a position to know of the vast work that has been done in exposing the different Cults and Quacks. The JOURNAL has a vast circulation, more than 80,000 numbers being published weekly, and is rated as being the best medical journal in the world.

Due consideration was given the Allergic reactions of the upper respiratory tract, in-

cluding recurring Conjunctivitis, vaso-motor rhinitis, hay-fever and asthma. It seems to the writer that this field offers considerable food for thought and that we are upon the threshold of new discoveries that will aid us in the alleviation of the suffering experienced by many of our clientele.

Radium and X-ray in the treatment of neoplasms of the upper air passages also demanded much attention. However, nothing new was advanced except that as more men become proficient through experience, we are led to look upon these two valuable adjuncts of our armamentarium as being extremely dangerous in the hands of the novice. They have not as yet taken the place of surgery and the early enthusiasts seem to have given them a place in the treatment of neoplasms which surgery far overshadows.

The purulent middle ear received its usual attention and a very interesting paper was read by Kopetsky on systematic infections complicating purulent middle ear disease. The paper was based upon the study of fifty-two cases of systematic infections resulting from suppurating ears. The discussion was lengthy and the treatment was varied. The suppurating ear will always provoke discussion and plenty of it. We all have chronic ears which we wish our colleagues had, but they must be given consideration and frequently deep consideration on account of the complications that may ensue.

The surgery of the brain, including brain abscess and meningitis, was also dealt with. Principles in which exploration of the brain for suspected abscess should be based; instruments that should be used and methods of dealing with the abscess when found were considered. In the surgical treatment of meningitis the surgical anatomy of the subarachnoid and dural spaces was considered of paramount importance as well as the importance of a localizing diagnosis. Certainly these cases should be attacked early if surgery is to be of benefit.

The examining board in Oto-laryngology held a meeting and about twenty-five came up for examination.

The education of the deaf child is, as it rightly should, being placed upon a scientific basis and men of experience in handling of these cases are becoming interested and much good is to be accomplished in the future.

On the whole the program was a very good one, but all of us who have attended these meetings regularly for a number of years must have been struck, as was the writer, by the absence of papers dealing with the tonsil. Not a single paper on this subject was presented.

The following officers of the section were elected for the ensuing year:

Chairman: Dr. Chas. W. Richardson, Washington.

Vice-Chairman: Dr. Fielding O. Lewis, Philadelphia.

Secretary: Dr. Samuel Iglauer, Cincinnati.

CLAUDE T. WOLFE.

## SPECIAL ARTICLE

### Obstetrical Column

Edited by ALICE N. PICKETT

Director of Prenatal Clinic Louisville City Hospital.



MOTHER AND CHILD

#### DR. HILL'S SERVICE.

Out of 42 cases tested on this service, only one gave a positive Wasserman. This woman (case 45) had 4 injections of neo-salvarsan before the baby was born. An apparently normal child was delivered at term.

#### FIVE FETAL DEATHS.

Case 11. Baby prematurely born at 7 months and lived 17 hours.

Case 26. Doctor Hill, Interne; Dr. Pickett, Staff.

This was a clinic patient—Para 1. The prognosis as to labor was recorded "normal for child of average size." The baby weighing 7 pounds 2 ounces, was born spontaneous-



ly and seemed to be normal but died after 54 hours. No autopsy was permitted. Death was probably due to cranial hemorrhage from a prolonged labor. The length of the 2nd stage is recorded as covering 6 hours. Had this baby been delivered by forceps early in the 2nd stage, the baby might have been saved.

Our internes are now instructed to call a staff member in case of slow progress after two hours of second stage pains.

Case 30. An easy spontaneous delivery—at term. Birth weight 9 1-2 pounds. The baby died after 81 hours. The autopsy revealed no cause of death.

Case 17. See report of case under Caesarean Section.

Case 22. Dr. Hill, Interne; Drs. Pickett and Speidel, Staff.

In clinic this patient's pelvis was described "inlet probably normal," outlet somewhat contracted. A diagnosis of breech position was made and checked by x-ray. The first stage covered 36 1-2 hours. The second stage 2 hours and 20 minutes. Dr. Speidel delivered before a section of the senior class, demonstrating the Potter method of breech extraction. Some difficulty was encountered in the delivery of the shoulders and head because of the small pelvic outlet. The baby died after 39 hours. No autopsy was permitted but we believe the child died of a cranial injury caused by the unusual force of the traction necessary for delivery in this case.

#### TWO FORCEPS CASES.

(No fetal death, One maternal death due to tuberculosis).

Case 18. Dr. Hill, Interne; Dr. Pickett, Staff, Para 1.

This was a clinic patient of fair measurements. She had been treated at Waverly for tuberculosis and had had pneumonia 3 times previous to her admission. The baby presented in R. O. P. The position, converted manually to an L. O. A., was maintained manually in that position until the head was driven down within reach of forceps. A living baby was delivered weighing 7 pounds and 12 3-4 ounces. Ten hours following her delivery, her temperature arose to 102 and she developed lobar pneumonia which cost her her life.

Case 23. Dr. Hill, Interne; Dr. Pickett, Staff.

This patient, a Para 1, had no prenatal care. Forceps were applied after 2 hours of second stage pains, the head remaining in persistent R. O. P. The head was manually rotated to R. O. A. and delivered by mid-forceps. The baby weighed 8 pounds and 15

ounces. It developed a large cephalhematoma over the right parietal region due, we thought, to the pressure of the premontory during descent. The child was later transferred to the surgical department. Infection with necrosis of the bone required incision and drainage. It was found that the bone had been destroyed down to the dura which was exposed during the operation. The child made a slow but complete recovery.

#### ONE CAESAREAN SECTION.

##### (Death of Mother and Child)

Case 17. Dr. Hill, Interne; Drs. Speidel & Pickett, Staff.

This patient had no prenatal care. Our doctors found her in the hands of a mid-wife. She was a Para 2 who gave a history of having been delivered of her first baby only after a craniotomy had been resorted to. It was found that she had a generally contracted pelvis with a marked lardosis.

She had been in labor 15 hours and the cervix showed only one finger dilatation. Fearing serious trouble the externe induced her to come to the hospital. Then hours later she had made no progress in spite of good contractions. The fetal pulse was 140 and of good quality. We did not believe the child could be delivered alive by the vaginal route. We also had to consider the possibility of having to resort to a craniotomy on a living child. For this reason we decided on a Caesarean Section even though we knew we were dealing with a uterus potentially infected from repeated vaginal examinations.

The low cervical incision was chosen as a safe-guard against sepsis. Unfortunately profuse bleeding from the uterine wall brought about a delay in the delivery. The child was asphyxiated and all efforts at resuscitation were ineffectual. The mother died five days later from infection. Thus we lost both the mother and child. Had we delivered per vagina the chances are we would have lost only the child. However, when we decided on the section, we did not anticipate the hemorrhage, which played no little part in the loss of the baby, and certainly lessened the mother's resistance to infection.

#### DR. HAYMAN'S SERVICE.

All of the 39 mothers delivered in the Hospital on this service were tested for Syphilis. Three of the 14 mothers delivered by our externes in the homes did not have the benefit of the test. Out of the 50 mothers tested, 11 gave positive Wassermans.

The table covering Dr. Hayman's service shows that we were unusually fortunate in

## Hospital Deliveries.

No.	Reg. No.	Para.	P. O. B. Care	Para. R.	Toxaemia	Wass.	Prenat. Syph. Tr.	Ch. of Pelvis	Ch. of Delivery	Pos.	Wt. Baby At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	55977	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.9	Living	Good	Good
2	560052	No	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.9	Living	Good	Good
3	56001	4	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.8	Living	Good	Good
4	56011	2	Clinic	Normal	.....	Neg.	.....	Mod. Cont.	Spontaneous	L. O. A.	6.4	Living	Good	Good
5	65220	4	Clinic	130-85	Moderate	Neg.	.....	Normal	Spontaneous	L. O. A.	8.12	Living	Good	Good
6	55975	3	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.1	Living	Good	Good
7	55986	2	Clinic	144-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.6	Living	Good	Good
8	55999	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Living	Good	Good
9	55992	1	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.8	Living	Good	Good
10	55979	1	Clinic	134-68	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.2	Living	Good	Good
11	55951	2	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.12	Lived 17 hrs	Good	Dead
12	56043	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.8	Living	Good	Good
13	56048	6	Clinic	130-80	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	8.8	Living	Good	Good
14	56079	3	No	.....	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	7.8	Living	Good	Good
15	56093	1	Clinic	138-70	Slight	Neg.	.....	Mod. Cont.	Spontaneous	R. O. A.	7.13	Living	Good	Good
16	56145	3	Clinic	Normal	.....	Neg.	.....	Normal	Caesarean	Breech	7.8	Dead	Dead	Dead
17	56169	2	No	.....	.....	?	.....	Cont. and Flat	Forceps	R. O. P.	7.12	Living	Dead	Good
18	56200	1	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.4	Living	Good	Good
19	56208	1	Clinic	Low	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Living	Good	Good
20	56210	3	No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.14	Living	Good	Good
21	55764	1	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6.11	Living	Good	Good
22	56278	1	Clinic	Normal	.....	Neg.	.....	Cont.	Breech Ext.	Breech	8.15	Lived 39 hrs	Good	Dead
23	56276	1	No	.....	.....	Neg.	.....	Normal	Forceps	R. O. P.	8.15	Living	Good	.....
24	53613	5	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. P.	8	Living	Good	Good
25	56193	7	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7.2	Living	Good	Good
26	56323	1	Clinic	132-82	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	6.7	Lived 54 hrs	Good	Dead
27	56347	1	Clinic	138-78	Slight	Neg.	.....	Mod. Cont.	Spontaneous	L. O. A.	6.8	Living	Good	Good
28	56407	4	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	5.6	Living	Good	Good
29	56404	4	Clinic	136-68	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	9.8	Lived 81 hrs	Good	Dead
30	56304	3	Clinic	136-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	5.8	Living	Good	Good
31	56492	1	Clinic	142-78	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	.....	.....	Good	Good
Home Deliveries.														
32	.....	7	Clinic	Normal	.....	.....	.....	Normal	Spontaneous	L. O. A.	.....	Living	Good	Good
33	.....	2	Clinic	144-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Living	Good	Good
34	.....	2	Clinic	130-60	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Living	Good	Good
35	.....	3	Clinic	130-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Living	Good	Good
36	.....	6	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	7	Living	Good	Good
37	.....	2	Clinic	134-60	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Living	Good	Good
38	.....	8	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	8	Living	Good	Good
39	.....	3	Clinic	140-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.8	Living	Good	Good
40	.....	7	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	3.4	Living	Good	Good
41	.....	2	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	7	Living	Good	Good
42	.....	9	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	7	Living	Good	Good
43	.....	17	Clinic	154-84	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	6.8	Living	Good	Good
44	.....	3	No	.....	.....	.....	.....	Normal	Spontaneous	R. O. A.	6	Living	Good	Good
45	.....	6	Clinic	134-80	Slight	4 Plus 4 Neo.	.....	Normal	Spontaneous	L. O. A.	7.2	Lived 8 days	Good	Dead
46	.....	9	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8	Living	Good	Good
47	.....	6	Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	.....	Living	Good	Good
48	.....	No	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	6	Living	Good	Good
49	.....	5	No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	.....	Living	Good	Good

No. of Clinic Cases 35.

No. of Non-Clinic Cases 14.

No. of Maternal Deaths 2.

No. of Foetal Deaths 6

No. of Puerperal Sepsis 1.

No. of Maternal Syphilis 1.

No. of Retroversion on Discharge 2.

No. of Clinic H. B. P. Cases 17.

No. of Toxaemia Cases 16.

No. of Eclampsia Cases 0.



not losing any of these babies. Four cases had no prenatal antileptic care. All the babies were born at term and were apparently normal. The 11 mothers with their babies were put under the care of the Mother and Child Clinic—a branch of Dr. Young's venereal clinic especially formed for the observation and care of syphilitic mothers and children.

#### THREE FORCEPS. (No fetal deaths).

Case 2. Dr. Hayman, Interne. Dr. Pickett, Staff.

A prenatal case whose Wasserman was 4 plus. Her antisymphilitic treatment was begun in the third month of gestation and she received a full course of treatment. Her pelvis was described in clinic as "normal," but at labor, dilation was slow and the 2nd pains were ineffectual, probably due to cephalopelvic disproportion. (The baby weighed 8 pounds and 9 ounces). Low forceps were applied. Mother and child discharged in good condition.

Case 18. Dr. Hayman, Interne. Dr. Pickett, Staff.

No Prenatal care. Para 1. The patient came in to Hospital in labor. External measurements were 26-28-20. After 2 hours of 2nd stage pains with little progress, she was delivered by Low Forceps. The baby weighed only 6 pounds and 4 ounces. The mother developed phlebitis, but was discharged on the 19th day much improved as to venous condition. She was advised to wear a rubber stocking, and to report to the surgical clinic.

Case 19. (See under toxæmias.)

#### THREE VERSIONS

Case 16. See under Eclampsia—child lived.

Case 25. Dr. Hayman, Interne; Dr. McConnell, Staff.

This was a clinic patient—Para 1—whose pelvis was described as normal. The first stage covered 13 hours and the second 3 hours. A version was performed—the indication being slow descent—probably due to an R. O. P. position. A still born baby weighing 7 pounds and 2 ounces was delivered.

The mother made an uneventful recovery.

Case 32. See under Placenta Praevia—Child lived.

#### ONE CAESAREAN SECTION (Mother and Child saved)

Case 5. Dr. Hayman, Interne; Drs. Pickett and Speidel, Staff.

This was a clinic patient. Her Wasserman was 4 plus and she received 6 Neos and 7 Hg. treatment. She had a generally contracted pelvis so that her history was stamped "no vaginal examinations after onset of labor." This instruction was followed by the externes who made only rectal and abdominal examinations. After 36 hours of labor, it was found that the head was still high in the pelvis and the dilation remained only one finger. She consented to come into the hospital where a Caesarean Section was decided upon.

The high Davis incision method was followed. A living baby weighing 7 pounds and 5 ounces was delivered. Mother and child discharged in good condition.

The outcome of this case is in marked contrast to that of the case of Caesarean Section reported under Dr. Hill's service. The difference lies in the fact that in Dr. Hill's case, the patient had been subjected to repeated vaginal examinations. In Dr. Hayman's case, only one vaginal examination was made. This was done after her admission to the hospital, where the strictest care as to asepsis could be observed.

#### THREE TOXAEMIAS.

Case 19. (A case of eclampsia prevented). Dr. Hayman, Interne; Dr. Pickett, staff.

This patient was carefully watched in prenatal clinic. She gave a history of having had eclampsia at the birth of a child then four years old. She also stated she had had kidney trouble since. Her Wasserman was 4 plus. The urine persistently showed a heavy cloud of albumin and an occasional hyalin and granular cast. Oedema of varying degree was always present, during the last 6 weeks prenatal and she had frequent headaches.

Antileptic treatment was begun but discontinued after 2 injections of Neo because of the kidney condition. She was treated in clinic for one month after which time she was admitted to the hospital because of increasing signs of toxæmia. Her blood pressure rose to 140-190. Four days after admission her pressure rose to 200. She was treated by rest, diet and saline laxatives. All symptoms of toxæmia persisted in varying degrees of intensity for the following 3 weeks. Her pressure ranged from 170 to 210. When the baby was thought to be a few days post-mature, labor was induced by the insertion of a bag. The baby was delivered by forceps as a means of shortening the second stage.

## Hospital Deliveries

No.	Reg. No.	P. C. Care	B. P. R.	Toxemia	Wass.	Prenatal Syph. Tr.	Ch. of Pelvis	Ch. of Del.	Pos.	Wt. Baby	At Term	Fate of Baby	Cond. Mother on Discharge	Cond. Baby on Discharge
1	56504	5 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Yes	Living	Good	Good
2	56294	1 Clinic	138-70	Slight	4-Plus	1 Course	Normal	Forceps	R. O. A.	8.9	Yes	Living	Good	Good
3	56406	2 Clinic	Normal	.....	.....	.....	Normal	Spontaneous	R. O. P.	5.2	Yes	Living	Good	Good
4	56564	1 Clinic	Normal	.....	.....	.....	Normal	Spontaneous	L. O. A.	6.10	Yes	Living	Good	Good
5	56561	1 Clinic	145-98	Slight	3-Plus	6 Neo. 7 Hgs.	Gen'l. Con't.	Caesarian	L. O. A.	7.5	Yes	Living	Good	Good
6	56582	2 No	.....	.....	.....	.....	.....	Spontaneous	Breech	7.5	Yes	Living	Good	Good
7	56583	3 No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	8.4	Yes	Living	Good	Good
8	56584	1 No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	4.8	7 Mo.	Living	Good	Dead
9	56585	1 Clinic	137-80	Slight	Neg.	.....	Normal	Spontaneous	R. O. P.	7.0	Yes	Living	Good	Good
10	56575	1 Clinic	142-70	Slight	Neg.	.....	Gen'l. Con't.	Spontaneous	R. O. A.	7.7	Yes	Living	Good	Good
11	56632	4 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	8.9	Yes	Living	Good	Good
12	56633	2 No	.....	.....	.....	.....	.....	Spontaneous	L. O. A.	6.2	Yes	Living	Good	Good
13	56634	2 No	.....	.....	.....	.....	.....	Spontaneous	Breech	5.6	Yes	Living	Good	Fair
14	56637	1 Clinic	134-70	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	8.5	Yes	Living	Good	Good
15	56648	2 Clinic	.....	Eclampsia	1-Plus	None	Normal	Version	L. O. A.	5.3	8 mo.	Living	Good	Good
16	56515	7 No	.....	.....	Neg.	.....	Normal	Forceps	L. O. A.	7	Yes	Living	Good	Good
17	56700	5 No	.....	.....	.....	.....	Normal	Forceps	C. P. D.	6.4	Yes	Living	Fair	Good
18	56715	1 No	216-120	.....	Neg.	.....	Normal	Forceps	R. O. P.	7.4	Yes	Living	Fair	Good
19	56262	2 Clinic	Normal	.....	Neg.	2 Neo.	Normal	Spontaneous	R. O. P.	7.3	Yes	Living	Good	Good
20	56701	2 Clinic	134-70	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.4	Yes	Living	Good	Good
21	56768	2 Clinic	140-94	Slight	4-Plus	.....	Normal	Spontaneous	R. O. A.	7	Yes	Living	Good	Good
22	56811	2 Clinic	142-82	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	7	Yes	Living	Fair	Good
23	56743	1 Clinic	140-78	Slight	Neg.	.....	Normal	Spontaneous	R. O. A.	6.9	Yes	Living	Good	Good
24	56827	2 Clinic	130-78	Slight	4-Plus	6 Neo. 4 Hgs.	Normal	Version	R. O. P.	7.2	Yes	Living	Good	Good
25	56855	1 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	R. O. A.	8.2	Yes	Living	Good	Dead
26	56868	5 Clinic	140-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	7.13	Yes	Living	Good	Fair
27	56887	1 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	5.6	Yes	Living	Good	Good
28	56890	1 Clinic	122-74	Eclampsia	Neg.	.....	Normal	Spontaneous	R. O. P.	11.8	Yes	Living	Good	Good
29	56899	7 Clinic	155-70	Moderate	Neg.	.....	Normal	Spontaneous	R. O. P.	6.7	Yes	Living	Good	Dead
30	56898	1 Clinic	Normal	.....	Neg.	.....	Normal	Version	L. O. A.	6.8	8 Mo.	Living	Good	Fair
32	56946	6 No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	6	Yes	Living	Good	Good
33	56941	1 No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	5.6	Yes	Living	Good	Good
34	56889	8 No	.....	.....	Neg.	.....	Normal	Spontaneous	R. O. P.	6.7	Yes	Living	Good	Good
35	56987	1 Clinic	130-82	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Fair
36	56986	1 Clinic	Normal	.....	Neg.	.....	Flat	Spontaneous	L. O. A.	7.13	Yes	Living	Good	Good
37	57035	2 No	.....	.....	Neg.	.....	Normal	Spontaneous	R. O. P.	7.1	Yes	Living	Good	Good
38	57025	6 No	.....	.....	Neg.	.....	Normal	Spontaneous	L. O. P.	9.3	Yes	Living	Good	Fair
39	57038	3 Clinic	144-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.4	Yes	Living	Good	Good
HOME DELIVERIES														
40		4 Clinic	158-85	Moderate	Neg.	.....	Normal	Spontaneous	R. O. P.	7	Yes	Living	Good	Good
41		4 Clinic	Normal	.....	4-Plus	2 Neo.	Normal	Spontaneous	R. O. P.	8.8	Yes	Living	Good	Good
42		4 Clinic	Normal	.....	4-Plus	None	Normal	Spontaneous	L. O. A.	7	Yes	Living	Fair	Good
43		1 No	.....	.....	.....	.....	.....	Spontaneous	R. O. A.	8	Yes	Living	Good	Good
44		6 Clinic	Normal	.....	4-Plus	1 Neo.	Normal	Spontaneous	L. O. A.	7.8	Yes	Living	Good	Fair
45		2 Clinic	130-90	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	5.8	Yes	Living	Good	Good
46		2 Clinic	Normal	.....	2-Plus	5 Neo. 10 Hgs	Normal	Spontaneous	R. O. A.	6.8	Yes	Living	Good	Good
47		3 No	.....	.....	.....	.....	Normal	Spontaneous	R. O. A.	7	Yes	Living	Good	Good
48		2 No	.....	.....	.....	.....	Normal	Spontaneous	?	7	Yes	Living	Good	Good
49		3 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Yes	Living	Good	Good
50		3 Clinic	Normal	.....	Neg.	.....	Normal	Spontaneous	L. O. A.	7	Yes	Living	Good	Good
51		1 Clinic	144-82	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Good
52		5 Clinic	130-80	Slight	Neg.	.....	Normal	Spontaneous	L. O. A.	8.6	Yes	Living	Good	Good
53		5 No	.....	.....	.....	.....	Normal	Spontaneous	L. O. A.	7	Yes	Living	Good	Good

No. of Clinic Cases 36.  
 No. of Non-Clinic Cases 17.  
 No. of Maternal Deaths 1.  
 No. of Foetal Deaths 8.

No. of Puerperal Sepsis 0.  
 No. of Maternal Syphilis 11.  
 No. of Retroversion on Discharge 2.

No. of Clinic H. B. P. Cases 20.

No. of Toxaemia Clinic Cases

{ Slight 16.  
 Moderate 2.  
 Pre-Eclampsia 1.  
 Eclampsia 1.



Mother and child were referred to both the venereal and medical clinics on their discharge from the hospital. They left town, however, and we were unable to follow them.

This toxæmia was primarily of kidney origin. In such cases the strain on the kidneys becomes progressively graver with each subsequent pregnancy. I think we can congratulate ourselves on the outcome of this case. It was only by the painstaking oversight of our social workers, nurses and internes that this woman was saved from eclampsia. Thus prenatal care scores another victory.

Case 29. (Convulsions of unknown origin)  
Dr. Hayman, Interne; Dr. McConnell, Staff.

This patient came to the clinic first December 3, 1923. Blood pressure 106-54. In her following four visits to clinic her systolic pressure ranged from 108 to 120. She at no time had toxic symptoms and her urine was negative. Her last visit to clinic was on March 24, 1924. She entered the hospital in labor on the night of April 3, 1924. The baby was born spontaneously at 6 a. m. A specimen voided on admission showed 4 plus albumin. Five hours later she had 3 convulsions in rapid succession. She was given a colonic irrigation, gastric lavage and a hot wet pack. She came out of the pack conscious and said she felt well. Her blood pressure rose to 130. On the two following days she had a systolic of 140. A Catheterized specimen of urine on her 3rd day post partum showed 1 plus albumin and no casts. Her blood chemistry in the same day was negative. Mother and child were discharged in good condition.

We are at a loss to account for this case. Whether the convulsions were from toxæmia, hysteria or epilepsy we are unable to say. Certainly she had no evidences of toxæmia other than the convulsions.

Case 16. Dr. Hayman, Interne; Dr. Pickett, Staff.

This patient had had no prenatal care. She had had a convulsion on the train and was brought from the station to the hospital. Her blood pressure on admission was 192-100 and her urine showed 4 plus albumin but no casts. She was mentally clear. She was put on eliminative treatment and a diet low in protein. Her pressure slowly dropped and for several days she seemed to be improving. Towards the end of the week, however, she developed headaches with a rising blood pressure. On her 7th day she complained of epigastric distress and almost immediately went into convulsion.

Under gas she was given a colonic irrigation, a gastric lavage and was put into a hot

wet pack. After the pack was applied she was given morphine, grain 1-4. She went into labor either during or immediately after the pack and the baby was delivered by version as soon as the dilation was completed. The child was one month premature. Both mother and child were discharged in good condition.

#### ONE CASE OF PLACENTA PRAEVIA.

(Mother lost—Child saved).

Case 32. Dr. Hayman, Interne; Dr. McConnell, Staff.

This patient came into the hospital as an emergency. She had been bleeding for two weeks. She had been packed by her family physician who had made a diagnosis of placenta praevia.

A diagnosis of placenta praevia centralis was made on examination. She was not bleeding at that time and dilatation by Voorhee's Bag was decided on. Before the bag could be inserted, however, the hemorrhage became so profuse that a manual dilation was done followed by version. When mother and child were put to bed, the mother was thought to be in fair condition. She was given 500 c. c. of normal saline intravenously. Three hours later she went into collapse and died 5 hours following delivery, as the result of hemorrhage.

---

Observations made by Solomon Strouse, Chi Che Wang, Chicago, and Marie Dye, East Lansing, Mich., (Journal A. M. A., June 28, 1924), have shown that (1) obesity in certain persons may occur on food intakes much below their calculated caloric requirements; (2) the basal metabolism in obesity does not differ from the normal; (3) the specific dynamic action of protein is decidedly less marked in the obese than in the normal, and (4) there probably exists an anomaly of fat metabolism in the obese, the exact nature of which has not been ascertained.

---

**Formation of Cancer.**—Bauer considers a lowering of the surface tension of the tissue fluid as the immediate cause of cancer. His experiments demonstrate the fact that this isolates the cells, and decreases their tendency to divide. All the methods of experimental cancer production have the same effect of removing cells from the influence of the surroundings and stimulating their multiplication. The average surface tension of the serum from patients with cancer is lower than in normal subjects, and much lower than in erysipelas. Substances which lower the surface tension accelerate the growth of tumors and those which increase the tension, like calcium, inhibit the growth. The primary point of action is the tissue fluid, not the cells.

## ORIGINAL ARTICLES

## SYPHILIS.\*

By W. L. Mosby, Bardwell

I fully appreciate the importance of the subject assigned me for discussion before this society tonight but shall only attempt to generalize and this only in a very superficial way.

A typical or classical case of syphilis is very easy of diagnosis. Hunterian chancre, adenitis, cutaneous rash with a history of exposure but these are few as compared with the many obscure forms with a negative history that so often baffle our skill and exhaust our diagnostic resource unless a Wasserman relieves our dilemma and then even a question may remain to excite suspicion.

In all invalids and chronic cases of disease and malformations and especially where heredo-syphilitic infection is suspected we are then required to study carefully the clinical history and blood examination to correctly elucidate our case.

Chronic cases of nervous disease, disease of the cardio-vascular apparatus, gastro-intestinal disturbance, glandular involvements may be syphilitic in origin.

In tuberculosis it may exist as a mixed infection, in the lungs as pulmonary tuberculosis, in the joints or bones, in the glands, peritoneum, meninges and here anti-syphilitic treatment proves beneficial.

Syphilis of the nervous system is twenty times more frequent than that of the cutaneous form.

In men we can arrive at a correct diagnosis of syphilis from the history only once in about twenty, while in women only once in forty to fifty cases, so while a history is of great value yet it is difficult to get.

We should satisfy ourselves as to possible syphilis in all cases of cancer and sarcoma and the so-called pseudo-syphilitic carcinoma and allied skin affections.

All median line diseases, aortitis, ulcerated throat affections, ulcers, exostoses and even nephritis should be carefully differentiated. Every man married to a woman with syphilis and every woman married to a man with syphilis should be regarded as having syphilis.

In the hereditary forms we usually have little difficulty in diagnosis, the usual hereditary stigmata are; all forms of malformations, affections of bones, nervous system, teeth, Hutchinson teeth, microdentism, sud-

den bilateral deafness, interstitial keratitis, saber shaped tibia, funnel shaped chest, all the common signs of acquired syphilis are strongly suggestive of the hereditary form when observed in the young.

To the classical sign of Hutchison, Queyrat has added the absence of the xyphoid cartilage, Sabour and Carabelli's tubercle, Mihan's lilac are of the nails and Cardinat's defective development of one or two lateral incisors.

Dr. Pinard attaches great value to the coalescence of the eye brows or a dense growth of hair between the eyebrows, thought to be due to hyperfunctioning of the supra-renals injured by the treponema pallidum and all dental abnormalities are supposed to be due to lesions of the parathyroid glands. Coalescence of eye brows may also be associated with a collection of hair in the lumbo-sacral region or an area at lower portion of interscapular space this sign is sometimes present in those predisposed to tuberculosis. Corneal rings in the young is a sign of the hereditary form just as the arcus senilis is a symptom in the old. We should properly interpret such symptoms as pupillary disturbances, Argyl Robertson pupil, inequality, irregularity and mycosis.

Reflex disturbance as abolition or exaggeration, chronic aortitis, cyclic or polycyclic cutaneous scars, pigmentary syphilides of the neck, alopecia areata, affections of the glands, lingual leucoplakia and sclerosis of the tongue. Frequent abortions occurring without other explainable causes or a number of deaths among young children in a family are presumably due to this cause.

General paralysis, tabes, locomotor ataxia, hemiplegia, aortic aneurysm, aortitis, angina pectoris should all be regarded with suspicion as to etiology and the therapeutics in keeping with the diagnosis, tried out. The finding of the various forms of hereditary syphilis is not always an indication for treatment and when the patient enjoys good health and the process is inactive or so called latent there is little good to expect from treatment but a knowledge of the history and condition which may present a syndrome later or may be found in his ascendants, descendant or those related by blood line otherwise may prove useful.

Nature seems to lend an immunizing influence and no less so here and again the patient is suffering from the damage already done in his tissues and system in the hereditary form. I do not wish to be understood as assuming this attitude towards the acquired or active types that call for skilled, active, careful, prolonged and efficient treatment.

\*Read before the Carlisle County Medical Society.



I shall briefly allude to some of the newer preparations more recently used in this disease without enlarging elaborately on their individual merits and leave that for your study to suit your individual ease. Bismuth is comparatively a new remedy in this field for usefulness and is being used in various combinations in France and other countries with great success. The Pot-Sod-Bismuth Tartrate put up in 10 per cent solution by the trade name Trepol is recommended by Sacerac and Veladiti and others use the oily solution of pure Bismuth and praise it. Giemsa of Hamburg experimented with the Bismuth tartrate as prepared by Horta and Gans of Brazil and found that .0035 gm. would destroy the spirocheta in rabbits and believed one third of this dose would have done the same.

According to Dr. J. Nin Posadas of Buenos Aires the trepol prepared by Chenal and Doilhet of Paris used in 2 to 3 gm. doses intramuscularly in the gluteal region gives "very favorable results," and summarizes by saying "the results in the numerous cases the author has treated with bismuth, agree with the views of Dr. Roux who declared before the French Academy of Science "From now on bismuth must be considered as one of the most powerful antisyphilitic agents known to us."

The colloidal bismuth as prepared by Fouard of Paris is a black gelatinous liquid furnished in tubes of 4 c.c. containing 2.2 mg. of colloid bismuth per c.c. requiring heat to render homogeneous for injection intravenously which should be given three times a week and in doses of two, three and four tubes respectively (17.6mg. 26.4mgs., 33.2 mg. of the colloid bismuth) and according to the Journal re Medicine of Paris, Val. XLI, No. 26 it is the most active of the bismuth preparations yet no less so than arsphenamine. Dr. Parounagion of the Bellevue Hospital, N. Y., rescribes a new combination of silver and arsphenamin under the name silver-arsphenam first made by Ehrlick and published in 1913 but it remained for Kolle, his successor at Speyer House, to complete a biologic examination and distribute this new compound for clinical study and investigation.

Kolle and Ritz claimed for it distinct antisyphilitic value. It contains 20 per cent arsenic and 14 per cent silver and is made by treating arsphenamin with silver salts and is a brown powder easily soluble in water (which should be distilled) making a dark brown solution, becoming cloudy or opalescent on deteriorating under which condition it becomes unfit for use. The dose is .15mg.

and may be increased to .2mg. to .25mg. each succeeding dose, given each third or fourth day intravenously until eight doses are given, constituting a course and they report few reaction attending its use.

Dr. Wile of Ann Arbor, Michigan, believes the mercury and iodide treatment in liver and heart complications to be more conservative and safe than the intravenous administration of salvarsan as with it there is increased (or may be) liver disintegration, increased cachexia, failure of metabolism, portal obstruction, jaundice and ascites may even occur soon after its use as a result of the intense medication where under a less active form a gradual cicatrization and a compensatory hypertrophy would have resulted in the unaffected organs. Dr. Victor G. Veeki of San Francisco claims that mercury is only useful in dangerous doses and is a "poison only" and after its prolonged use a "chronic poisoning" occurs, a strong indictment of an old friend but the case may later be proven. Kolle says it is active only in almost fatal doses, and he believes the iodides are neglected today more than formerly and that while they are not directly spirochetal-destroying in its action there is no doubt that it has a peculiar effect in destroying the syphilitic foci having an affinity for diseased tissue and mercury we believe shares this property with the iodides. Dr. Loeb (whose untimely death occurred Feb. 11th-24) found the involved glands contained about six times as much iodine as the normal.

Iodines are useful in the early stages of this disease but imperative later on in tertiary form and where debility is present iron may be combined with benefit to meet indications.

I have never felt able to discard mercury and use it in "rubs" of the ointment and the proto-iodide internally and later where the so-called "mixed treatment" is desired, combine the bichloride of mercury and iodine of potassium in solution with satisfaction.

Since the successful treatment of syphilis is inseparable from intravenous medication it will be well to make a few practical suggestions as to its technique and its well to remember it is not a "job" for the lazy man's method, the busy man's method, or the ignorant man's method but for the alert, careful and painstaking man of clean methods.

Dosage intravenously should be regulated according to weight not obesity which does not mean increased resistance, conditions as to liver or organic complications and individual toleration.

Salvarsan or arsphenamine requires a greater dilution than the neo-arsphenamine

and a longer time in its administration and for the general practitioner without assistance (trained) to help, we should rely on the easier use of neo-salvarsan unless there is sufficient reason for not doing so.

Many physicians advise using intravenous medication in afternoon when the days work is done and advise no food for some three hours before nor for about the same time after, but it has been my practice to use it during the morning hours with a light breakfast and having patient remain in a lying posture for about thirty minutes after which time he may resume light duties.

It is advisable to secure a 24 hour specimen of urine for analysis and record the blood pressure and make a complete physical examination just as we would do for any other surgical procedure and check up on the functions for the sake of safety that we know our patient fully.

The patient should lie on his back with arm extended at right angle to body and arm on a level with his shoulder, the region in which the vein lies to be punctured is swabbed with iodine and this in turn washed away with ether and alcohol which not only completes the sterilization but partially anesthetizes the skin. Now the cuff of our blood pressure instrument is applied above the elbow and pumped to about 110 at which point the vein will enlarge to its fullest prominence and usually become very accessible. We should have before this time immersed the ampoule to be used after removing the label in alcohol not only for sterilization but to test the ampoule for leakage and if found same should be discarded as unsafe for use. The contents of the ampoule should be emptied into the mixing chamber for solution in freshly distilled water and after completing the solution filter to remove any sedimentation or solid material thereby preventing many accidents. We should be armed with such emergency remedies as epinephrine, caffeine and camphorated oil but with a good technique and alertness in detail we should not require their use, at least this has been my good fortune. It is needless to urge great care in properly entering the vein avoiding trauma at all times and using no force or violence in the operation, avoiding hurry in operation, being sure that needle is in vein and this we may know by drawing blood into syringe before loosening band of blood pressure instrument around arm and then we may slowly make our injection. It has been our custom to begin with .6 gm. of neo-arsphenamine in about 20 c.c. of distilled water on third or fourth days or weekly as the case suggests. It may be our misfortune to

be unable to get into the patients vein and under such conditions I have seen my son Dr. H. P. Mosby of Rockford, Ill., make use of the jugular vein, this was in a fat woman where the arm veins were inaccessible. Under similar conditions I have used the method of Dr. Granville Hanes in using the same size dose of neo-salvarsan by the rectum. By this method we should have the rectum free from liquids at least and with the patient on our chair in the knee-chest position we slowly introduce the solution prepared as for intravenous injection, patient should remain in this position for some 10 to 20 minutes and recumbent for 30 minutes longer to assure retention.

Sulpharsphenamine, is a light yellow powder, 22 to 24 per cent arsenic, freely soluble in water and reasonably stable and is suitable for intramuscular or hypodermic use in doses of 6 to 9 grains (0.2 to 0.6 gm.) prepared as we would the neo-arsphenamine solution for use.

A small wheel of procaine or cocaine in the skin and a few drops subcutaneously will aid you and please the patient before using this preparation which we would only advise for use as above, reserving other arsenic and silver compounds for intravenous administration.

Dr. Reginald Van Woert of New York in Journal of March the 1st, 1924, complains of after pain, swelling and loss of function also hardening of the arteries when used intravenously, which later method it is not advisable to employ this remedy and as to the hypodermic and intramuscular administration we should enjoin absolute aseptic technique with some preparation and after care. This form of medication is especially useful for those with inaccessible veins or small veins and for children, 1-4 gr. or .16 gm. per kilo of body weight.

I wish to emphasize the importance of an early diagnosis of this disease by clinical symptoms and findings reinforced by a Wasserman in all cases where possible and also we should study the "chancre field" for spirocheta and institute early prophylactic and curative treatment greatly shortening the course of the disease.

All antisyphilitic medication is based on the power to destroy the spirochete and should be repeated as often as reproduction occurs in the blood stream and continued as long as a blood examination shows a reaction after a few months rest from active treatment has ceased.

While there is no definite time for the effectual cure of syphilis to take place, depending on how early treatment was begun, pa-



tients condition as to health, age and complications, yet he should be held under observation for years with an occasional Wasserman for evidence of the renewal of activity and the necessity for renewal of treatment.

Oral disinfection and care, especially where mercury is given and attention to the general healthfulness of the patient are essential to secure the best results in management and affecting a cure.

#### BIBLIOGRAPHY

Medical Interpreter, Vol. Sixth  
 Dr. Lerede, Paris  
 Dr. Giemsa, Hamburg  
 Dr. Posadas, Buenos Aires.  
 Dr. Wide, Ann Arbor, Mich.  
 Jour. de Med. Paris  
 Dr. Vecki, San Francisco, Cal.  
 Dr. Parounagion, New York.  
 Dr. J. H. Furguson, London, Eng.

### ERYSIPELAS.\*

By H. T. CROUCH, Bardwell.

In choosing this subject for a short paper before this Society I am not able to offer you anything new on the subject. But Erysipelas, while not so commonly met with now in this country as twenty years ago, it is still sufficiently common to demand our services and an exchange of opinions of the members of this Society may do us good.

Erysipelas is an infectious disease characterized by a peculiar inflammation of the skin with fever, and other general symptoms caused by *Streptococcus* discovered by Fehleisen.

Erysipelas, as observed chemically, is always caused by streptococci, culturally and morphologically identical with *streptococcus pyogenes*. In some lower animals other germs especially pneumococci, staphylococci, and colon bacilli, cause similar lesions, but cases in human pathology are very rare. Von Leuwe has described pneumococcus cases caused in the patient with pneumonia by boring in the nose.

Predisposing and assisting causes are many, some fifteen or twenty years ago erysipelas was an almost universal complication of operations and wounds in surgical wards. Since the advent of surgical cleanliness it has become practically extinct as a surgical disease and is seen usually in private practice, in medical wards and in asylums. It is kept out of large wounds without special precautions other than antiseptic technique, but it occurs without discoverable cause or following a trifling scratch or abrasion. It may take its starting in an eczema, acne, or in the excoriation on the lip from a rhinitis, in a pruritus of the perineum or vulva, in

a vaccination wound, boring for ear rings, the umbilical cord, the uterus post partum.

Septic disease of the nose, ears, eyes and throat are among the most notable causes in medical practice. The face and head is more commonly the site of erysipelas than all the other skin surfaces of the body. And when the above septic conditions are present the danger of erysipelas should be borne in mind.

"In so-called crytogenetic cases it is not necessary to assume an unseen wound. The germs are often present on the body. A local alteration of nutrition in the skin or mucous membrane, or the assistance of another germ, such as the colon bacillus, may furnish a favorable seat or more favorable conditions for the multiplication and increased virulence of the germs." (Doctor G. Dock.)

Erysipelas is still spoken of sometimes as a contagious disease in the sense that it is communicated through the air, or without direct contact. In this point Dr. George Dock says, "As the facts on which the belief is based occur more often in private houses than in hospitals and more often in medical than in surgical wards it is more likely that casual transfer has taken place. The streptococci are easily destroyed where they are known to be present but can live long under conditions that include careless handling of dressings, eating and drinking utensils, and other small articles of personal use."

Individual predisposition to erysipelas is an important but obscure fact. The disease occurs chiefly in early middle life, but is not uncommon at the extremes of age. It is more frequent in women than in men. The cold wet months of late winter and early spring furnish a large proportion of cases.

Erysipelas is a simple inflammation. In its uncomplicated forms it seems post-mortem, little else than inflammatory oedema. Investigations have shown that the cocci are found chiefly in the lymph spaces and most abundantly in the zone of spreading inflammation. In the uninvolved tissues beyond the inflamed margin they are to be found in the lymph-vessels, and it is here, according to Metchnikoff and others that an active warfare goes on between the leucocytes and cocci. (Phagocytosis.)

"In more extensive and virulent forms of the disease there is usually suppuration. We were taught at this time or period of investigation that infarets occur in the lungs, spleen, and kidneys, and there may be the general evidences of pyaemic infection. Some of the worst cases of malignant endocarditis occurred secondary to erysipelas. Septic pericarditis and pleuritis also occur. The

\*Read before the Carlisle County Medical Society.

disease in rare cases may extend to and involve the meninges. Pneumonia is not a very common complication. But nephritis is also met with, but is ingrafted more especially upon an old chronic trouble." (Osler.)

Symptoms—The following description applies specially to erysipelas of the face and head, the form of the disease which the physician is most commonly called upon to treat.

(The incubation period is probably from three to seven days or longer, some say fourteen days. The stage of invasion is often marked by a rigor and followed by a rapid rise in the temperature and other characteristics of an acute fever. When there is a local abrasion, the spot is slightly reddened, but if the disease is idiopathic, there is seen within a few hours slight redness over the bridge of the nose and on the cheeks. The swelling and tension of the skin increases and within twenty-four hours the external symptoms are well marked. The skin is smooth, tense and oedematous. It looks red, feels hot, and the superficial layers of the epidermis may be lifted as small blebs. The patient complains of an unpleasant tension of the skin, the swelling rapidly increases and during the second day the eyes are usually closed. The first affected parts gradually become pale and less swollen as the disease extends at the periphery. When it reaches the forehead it progresses as an advancing ridge perfectly well defined and raised, and often, on palpation hardened excretions can be felt beneath the skin which is not yet reddened. Even in a case of moderate severity, the face is enormously swollen, the eyes are closed, the lips greatly oedematous, the ears thickened, the scalp is swollen and the patient's features are quite unrecognizable.

The formation of blebs is common over the eyelids, ears and forehead. The cervical lymph glands are swollen, but are usually masked in the oedema of the neck. The temperature keeps high without marked remissions for four or five days and then defervescence takes place by crisis.

Leucocytosis is present, Kinkbride has noted the presence in one case of leucin and tyrosin in the urine. The general condition of the patient varies much with his previous state of health. In old and debilitated persons, particularly those addicted to alcohol the constitutional depression may be very great from the outset. Delirium is present, the tongue is dry, the pulse is feeble and there is marked tendency to death from toxemia. In the majority of cases, however, even with extensive lesions, the constitutional disturbance, considering the height of the fever range, is slight. The mucous mem-

brane of the mouth and throat may be red and swollen. The erysipelatoous inflammation may extend to the larynx, but the severe oedema of this part occasionally met with is commonly due to the extension of the inflammation from without inward. There are cases in which the inflammation extends from the face to the neck over the breast and may gradually migrate or wander over the greater part of the body.

The close relation between the erysipelas, coccus and the pus organisms is shown by the frequency with which suppuration occurs in facial erysipelas. Small abscesses are common about the cheek and forehead and neck and beneath the scalp large collections of pus may accumulate. Suppurations seem to occur more frequently in some epidemic than in others and at Philadelphia Hospital during one year nearly all of the cases in the erysipelas wards presented local abscesses. (Osler.)

Complications: Meningitis is rare. The cases in which deaths occur with marked brain symptoms do not usually show post-mortem meningeal affection. Pneumonia is an occasional complication. Ulcerative endocarditis and septicemia are more common. True, nephritis is occasionally seen. Da Costa has called attention to curious irregular returns of the fever which occur during convalescence without any aggravation of the local lesion.

Diagnosis: Rarely presents any difficulty. The mode of onset, the rapid rise of fever, and the character of the local disease are quite distinctive.

Prognosis: The prognosis is extremely variable. In previous healthy individuals, not in the extremes of age, erysipelas, even severe cases are usually followed by complete recovery. In the young, all new born and almost all under one year die. The old and cachectic, in diabetes, hard drinkers and arteriosclerotics it is dangerous, often fatal. Erysipelas of the mucous membrane is serious; erysipelas of the scalp not always so.

Erysipelas does not produce immunity and often seems to increase the disposition to renewed infection. Many cases are known of yearly relapse, or even much more frequently.

Treatment: Isolation should be strictly carried out, particularly in hospitals. A practitioner in attendance on a case of erysipelas should not attend cases of confinement.

The disease is self-limited and large majority of the cases get well without any internal medication. Diet should be nutritious and light. Large amount of water should be given. Stimulants should not be given except in the old and feeble.



For restlessness, delirium and insomnia, bromide of potassium or choral hydrate should be given or if these fail opium in some form. When the fever is high bathe or sponge, and if patient objects, give antipyrine or phenacetine. Antistreptococcus serum or autogenous vaccine is reported to have had good results by some clinicians but many report that the results have no special benefits to recommend their use.

Dr. George Dock asserts, "Internal treatment for erysipelas there is none. The iron and quinine so long used and still recommended are useless against the disease. In patients with other diseases appropriate treatment may be continued unless contraindicated by special symptoms."

And Dr. Osler, in speaking of the same drugs says, "I am by no means convinced that they have any special action; nor, so far as I know, has any medicine given internally given a definite control over the disease." Dr. Osler, in speaking of local treatment by injecting antiseptic solutions a little beyond the border of the inflamed parts, says this mode of practice is certainly most rational. He names the antiseptic drugs as 2 per cent carbolic acid, corrosive sublimate (1 to 4,000) and Biniodide (1 to 4000). But of local applications, both Osler and Dock recommend a 25 per cent of Ichthyol to 75 per cent Lano-line as a salve applied once or twice per day as an astringent an antiseptic of real virtue. However, Osler says, "That perhaps as good as any application is cold water which was recommended by Hippocrates."

I will close by saying that if a little acetate of lead be added to the cold water it might help out some; the fact is that many cases are benefitted by any simple unguent applied over the inflamed area just as we protect a burn from the air, so we get good results from these soothing applications.

In two cases of diffuse carcinoma of the peritoneum which came to necropsy, tuberculous peritonitis was the clinical diagnosis, and this was confirmed by a pathologic report on a section of omentum, removed in one case during laparotomy. Russell S. Boles, Philadelphia (*Journal A. M. A.*, June 28, 1914), is of the opinion that the determination of the existence of a primary focus of tuberculosis should not preclude the possibility of carcinoma existing in the peritoneum. Since the symptoms and physical findings may be strikingly similar in tuberculosis peritonitis and carcinoma of the peritoneum, a painstaking consideration of the differential features is essential. Heliotherapy is an excellent therapeutic test of the diagnosis of tuberculous peritonitis, since it produces definite improvement in the majority of cases.

## OBSESSIVE-COMPULSIVE NEUROSIS.\*

By W. E. GARDNER, Louisville.

When I was reminded by our secretary that I was due to prepare a paper for this society it was not an easy matter to decide upon a subject that would be of more than ordinary interest to you, for I know that most of you are more or less familiar with the symptoms of some of the major psychoses, or what might be called the frank cases of mental disorder; but there is a group of the minor psychoses or borderline mental states which are often not incompatible with sanity and responsibility, and which are always of interest to the physician, whether he be specialist or general practitioner.

These mental states are usually grouped under the heading of the psychoneuroses, and include hysteria, neurasthenia and psychasthenia; the latter, psychasthenia, being a somewhat inclusive term and overlapping, to some extent, those conditions of obsessions, compulsions and phobias, which might be grouped more specifically under the concept of the obsessive compulsive neurosis.

A compulsion is a condition in which there is suddenly forced upon the mind a desire to do a certain act which the individual does not want to do, and yet it is with great difficulty that such an act can be controlled. If such a compulsion be resisted or interfered with, it gives rise to certain symptoms which, in marked cases, constitute a real crisis. The patient feels weak, trembles, becomes dizzy, perspires, and if he finally yields to this driving force within him, he finds that all of these symptoms disappear at once.

The compulsion, like an obsession, is recognized by the patient as being pathological, and yet it is forced upon him against his will, no matter how hard he may try to resist it. Unlike the impulse of the dipsomaniac, or the fixed idea which seems legitimate at first, and is recognized by the patient as being a part of him and originating within him, a sort of a natural development of his personality makeup, as it were, the compulsion is often directed toward an act which is abhorrent to the patient, such as murder, and he may take all sorts of precautions to protect others or even himself in submitting to voluntary incarceration.

Obsessions and compulsions are not the result of a persistent emotional tone and are not themselves persistent; they come in attacks. The fear of harm and delusions of sin experienced by the patient suffering from melancholia are not obsessions, nor are the

\*Clinical report before the Louisville Medico-Chirurgical Society.

impulses of patients suffering from acute mania or dementia precox. In the latter there is no attempt to control the fears and impulses, whereas in the patient suffering from a compulsion neurosis the individual realizes the groundlessness of his dread, endeavors to overcome it, and if he has an impulse to do something wrong, tries to resist it.

The etiology of psychasthenia and the compulsion neurosis is not well understood. There is frequently a history of insanity in the patient's family, but not always. There may be only a psycho-neurotic tendency. Physical illness may be an exciting cause in some cases, but the disorder is usually traceable to some incident in the patient's past experience which has not only been the origin of the peculiar obsession but has also determined its character. In other words, there has been repressed into the unconscious mind some unpleasant experience which craves for expression and which is known as a complex. We will say more of this later.

Janet, a distinguished French physician, who was the first to give us the name and a clear conception of psychasthenia, regards the condition as one midway between hysteria and epilepsy, and that it is due to a lowering of the psychological tension, by which he means that the psychical response of the individual to his environment is inadequate and less than normal, so that his perception of reality is deficient.

Closely allied to the compulsions and as a part of the psychasthenic syndrome, we have those conditions characterized by "irrepressible thoughts," "irrepressible fears," and "irresistible impulses." Irrepressible thoughts usually take the form of philosophical questionings arising from the instinct of inquisitiveness, such as: "Is there a personal God?" "If so, who created Him?" "Was there ever a beginning of all things?" "If so, did time exist before that?" Such questions constantly recur and cause real mental unrest to the patient. Most of the instincts however, are concerned in the avoidance of that which is unpleasant, such as dirt, vermine, the avoidance of articles which may be injurious to the individual, himself, or to others, such as firearms, needles and pins, razors and other sharp instruments. Such instincts as these become irrepressible when the patient suffers from the morbid fears of which we will now speak. Most of these fears have for one reason or another received specific names which are perhaps not necessary, and are hardly worth remembering. We shall speak of only a few of them. The fear of dirt of contamination, for instance, is called

mysophobia, and appears in many forms. Those suffering from this obsession are comfortable as long as everything and everybody near them is perfectly still, but should anybody move in the room they fall into a state of mental anguish, lest some of the dust raised by the movement should fall upon them or their clothing. Some even shake their clothing every few minutes, others avoid handling all sorts of articles, and if such becomes necessary, they are constantly washing their hands afterwards. Many wash fifty times a day or more. They appreciate the absurdity of their actions and often attempt to resist the impulse. A struggle between instinct and reason takes place, and they remain in the most distressing of all emotional states, "doubt," from which there is no relief for them until the hands are washed. One patient who found a bug in her clothing developed an abnormal dread of coming in contact with such vermin, and the change of bedding always caused her much distress on account of the possibility that a bug might find its way from the laundry into her room. Such a patient if not looked after would not change her clothing from one year's end to another, showing an inconsistency, after all, so far as real cleanliness is concerned.

The fear of microbes has become quite common during recent years due to the dissemination of medical knowledge by the public press, and we frequently see those individuals who go about holding a handkerchief to their noses to avoid the inhaling of germs. The appearance of a cat causes mental anguish to some people, and a great general who knew no fear in the presence of death was mortally afraid of a cat.

Agoraphobia, or fear of open spaces, causes the patient to have a feeling of oppression, often accompanied by cold sweats and tremors, whenever he passes into an open space such as a public square or field. Claustrophobia is the fear of closed places, such as a tight room, a street car or railway coach. Aerophobia is the fear of high places, and nyctophobia is the fear of the dark. Some people have this same feeling of oppression and anxiety when they are in a church or theatre. Some have the fear of crossing a bridge or being in a crowd. I am sure that many of the morbid fears just mentioned could be explained by the fact that at some time in the patient's life, perhaps in early childhood, there was some very painful emotional experience which took place under circumstances that determined the character of the peculiar phobia from which the individual suffers. A misguided parent has, no doubt been responsible for the development of a



fear of the dark, the crossing of a bridge, or the fear of high places, having thought it wise to instill such fears for the child's own protection, or in other cases may have resorted to a hoax to frighten the child for the parent's own amusement.

Other patients fear that an organic reflex over which they have no control may occur in awkward circumstances. A common form of this obsession is the fear of blushing on meeting strangers, the result being inevitable. Another fear of this sort is that one may lose control of the sphincter muscles when visiting other people or public gatherings.

Irresistible impulses: Here we have to deal with those states of mind in which the patient feels impelled to perform certain acts against his will. The impulse to count, or what is called arithmomania, is one of the commonest. The patient may have the impulse to count ten before he answers a question. He counts his steps, the number of windows in each house he passes, the number of rungs in the ladder. Some patients have to read every piece of printed matter that they come across, however much they may resist. If out walking, they read posters of all kinds, or even want to read letters over another's shoulder. A man living in the suburbs of a large city was anxious to free himself from the habit of reading posters, and on his way home from business one day deliberately avoided reading one of these. He reached home and had his dinner, but the fact that he had not read the poster haunted him to such an extent that before he could retire for the night he was obliged to travel back a distance of seven miles in order to read the poster and thus obtain relief from his mental unrest.

Dipsomania is another form of an irresistible impulse which comes on in attacks, like other impulses, during which the patient is unable to resist drinking alcoholic beverages to an inordinate extent, although he himself is anxious to abstain. Kleptomania is a recurrent impulse to steal, although the patient may be well to do and already well supplied with the articles that he takes. Pyromania is a morbid impulse to set things on fire, not to destroy property, but to experience a mental relief that comes from seeing a large conflagration. Other morbid impulses take the form of mutilating animals, especially horses and cattle. Some are impelled to commit homicide or suicide, and the latter often present themselves at asylums or mental hospitals asking to be taken care of until the impulse has passed off.

The compulsion neurosis presents no disturbance of sensation and perception is usually normal. The judgement is sound, there

are no delusions, the patients have clear insight into their own condition, and there is no disturbance of memory. The conduct is normal between attacks, as is also the emotional reaction, and there is no change of temperament. In fact, the patients are quite capable of managing themselves and their affairs and of attending to their ordinary duties.

Prognosis: If these patients are left to themselves, they seldom, if ever recover, and the outlook is regarded as unfavorable, if the obsessions have lasted more than a year before the patient begins treatment. If taken early they may be greatly benefitted, but much patience and perseverance are necessary to accomplish even moderate results in such cases. There is no morbid anatomy to account for such a disorder. The consensus of opinion at this time is that the psychopathology of these mental states is due to a repressed complex, as already referred to.

And, now, what is a complex, of which we hear so much these days, not only in medical literature, but also in leading articles of the current magazines, in which latter some well meaning but misguided psychologists attempt to convey to the layman's mind a scheme by which he can rid himself of many ills of which he knows very little, and in many instances irreparable harm has been done.

We quote here from Dr. Wm. A. White, Superintendent of the Government Hospital for the Insane at Washington, D. C., who has been a close student of the works of Jung and Freud, and who with Dr. Jelliffe, of New York City, has written quite extensively upon the psychopathology of the psycho-neuroses during the past several years: "The mind cannot be conceived of as consisting of or containing ideas which are deposited here and there, helter skelter, without order, as the scraps of paper that are thrown carelessly into the waste basket. Quite the contrary. Ideas are grouped about central experiences, into constellations, we may say, built into coherent and harmonious structures not unlike the way in which bricks and stones are brought together to form a building, and these buildings are again grouped to form the larger whole, or city. The significant fact in this connection is that the cement that holds the bricks and stones together, the binding substance so far as the individual is concerned in relation to those constellated ideas, is "our feeling." This orderly arrangement of ideas upon a background of feeling which serves to unite them is what gives character or individuality to the personality. The creating of the proper feeling tone about things and events is one of

the main functions of education. Now, it so happens in certain types of individuals a constellation of ideas, grouped about a central event that caused a highly painful, emotional state, is crowded out of clear consciousness or repressed into the region of the unconscious, and so has a tendency to lead an existence which is relatively independent, and in so doing gives rise to various symptoms. Such a constellation has been known of for many years in both this country and in France, and was called a 'dissociated state,' but more recently was referred to by Jung and Freud as a 'complex.' Such a complex crowded out of relation with the personal consciousness, seeks for expression, and since it is not in proper relation to the rest of the consciousness, because the individual is not aware of its existence, its expression cannot be controlled and guided into the usual channels, and thus it creates the symptoms of the psycho-neuroses, and in our case those of the compulsion neurosis, which is one of the subdivisions of the psycho-neuroses, as set forth in the early part of this paper.

This brings us to the question of treatment, and this consists largely of a process of re-education and sometimes by a process known as psycho-analysis. Suggestive treatment is of little value in such cases, unless repressed complexes can be unearthed and placed in their true light. It is, also, well that the patient be placed for a long period under such circumstances that there is little or no possibility of his seeing objects, incidents or situations likely to stimulate the particular emotion over which he has lost control. If this can be accomplished outside of an institution for the insane, so much the better, for these patients as a rule feel their associations with the insane very acutely. Nevertheless, they would rather submit to this than to be the victims of obsessions and compulsions for the rest of their days. They may be troubled less by their obsessions when following their usual occupations, yet it is best to discontinue them for a time. The physical health should be improved, of course, by seeing that the patient has a good plain nutritious diet, that he gets plenty of rest during the day and good sleep at night. For the latter, simple sedatives should be used, and on account of the analogy of this disorder to the epileptic personality, as referred to by Janet, I have had occasion to try luminal in one or two cases with what was apparently a very good result. Constipation, anemia, or any other physical disorder should, of course, be corrected, if possible.

While I have never been an enthusiast upon the question of psychoanalysis in the treat-

ment of mental disorders, yet I am forced to the conclusion that a proper psycho-analysis of such cases as have been referred to, here, is the most important part of the treatment, and in fact, the only thing, I believe, which is likely to effect a permanent cure in even a small percentage of cases. The method is not an easy procedure to handle, and there are some physicians who think they are making a psycho-analysis of a patient, when they already have a preconceived idea of what the complex is, and try to tell the patient, instead of having the latter gradually unravel his own tangled skein of wool, by the assistance of the physician, but in such a way that the patient believes he has discovered his own complex, and that the doctor had very little to do with it. Such a result is always a compliment to the one who has analyzed the patient, if he can so successfully keep his own ideas from influencing those of the patient, until the analysis has been completed.

There are three methods that may be employed, and time will not permit that we barely more than mention these, as we have already taken more time than was anticipated when this paper was begun, and a full discussion of the technique would make a long paper in itself.

The first of these is the free association method in which the patient sits or lies comfortably on a couch in a room with none other present, except the physician, and having the eyes closed, is told to repeat every word that comes to his mind, without any mental effort whatever, no matter how fleeting or what little importance it may seem, or how little bearing it may seem to have on the question at issue, some particular feature in the history of the case having been mentioned to the patient, just before the method is begun. It is sometimes difficult to get the patient to tell all the ideas that come, but by patience and perseverance he will tell more and more, and every little detail is important.

The next method is that of word associations. This is done by taking the reaction to a list of one hundred words or more carefully chosen to cover the ordinary field of the average person's possibilities of complex formation. The words are read to the patient, one by one, and he is instructed to answer immediately the first word or thought that comes to his mind after hearing the word read. The time of reaction and the character of the responses are noted by the observer.

And, as the last method, we have the investigation of the dream life of the individual. He is told to try to remember his dreams, however trivial they may appear to him, and



make notations of them from day to day, in order that they may be accurately reported to the examiner.

From all these sources extending over a period of weeks, months or even years, a wealth of material can be obtained, even in the most difficult cases, and frequently within a few weeks the patient will discover of his own accord, if properly guided, what the repressed complex is, and obtain almost immediate relief. Such has been the experience in the treatment of hysteria especially, and while the percentage of the obsessive-compulsive neurosis that has yielded to such methods is as yet very small, I am inclined to the opinion, as indicated heretofore, that perhaps herein lies our greatest hope for the alleviation of these unfortunate cases.

The patient is always grateful to the physician when he thinks he has at last found someone who understands him, and when all the submerged complexes and mechanisms of his symptoms have been uncovered he emerges almost as if he had literally been born again. The disordered material which the patient brought to us has, if we have been successful, been sorted over, rearranged, added to, and builded into a new and enduring structure. Self confidence and determination have been re-established; the patient has lost that feeling of incompleteness and insufficiency, which had tormented him for so long, and he is now able to resume the battles of life with renewed hope and courage.

Without taking a positive stand for or against the employment of psychoanalysis in the treatment of these borderline mental disorders, I would have you remember that the two most important conceptions dealing with the underlying mechanism of the symptoms are that of Janet, on one hand and that of Freud, on the other. For many years I have adhered to the conception of Janet, but it is quite evident, now, that the trend of the modern text-book in toward the Freudian concept, and that the psychologic interpretation of symptoms is becoming more and more popular.

#### DISCUSSION.

**Granville S. Hanes:** In his text-book on Rectal Diseases Dr. J. M. Mathews reports the case of a young woman brought from Florida by her mother for advice. He made the diagnosis of "hysterical rectum" which manifested itself in this way: The girl had a sweetheart who visited her each Sunday night about eight o'clock, and invariably when the doorbell rang announcing his arrival she had to hasten to the toilet to defecate.

A young woman under my observation has an irresistible desire to defecate every time she hears the telephone bell ring. When attending parties or visiting places where there is a telephone, she has to remain within easy reach of the toilet provided the telephone bell happens to ring.

A physician of my acquaintance also has so-called "hysterical rectum." When he and his wife dine in town he says that about the time the waiter appears with their meal he has to leave for the toilet to defecate. When they attend the theatre about the time the curtain rises he has an imperative call to defecate.

Another doctor told me recently that while a student he had a classmate who had to urinate whenever he saw a flash of lightning or heard thunder. I am confident these rectal and vesical phenomena have a pathologic basis. I have personally examined the three patients mentioned. The physician says he first has the sensation of "something in his rectum" then an irresistible desire to defecate. This impulse does not occur, however, when he is at home.

Of course we know there is no such thing as "hysterical rectum" and the irresistible impulse to defecate is in every case due to some pathological lesion which stimulates the defecation center.

**J. Rowan Morrison:** The subject introduced by Dr. Gardner is too extensive to be fully discussed by a general practitioner. While as Dr. Hanes says there may be a pathologic basis for many of the psychic manifestations, it may be difficult to locate in many cases. Obsessions and compulsions such as described by Dr. Gardner are real to people who have them; there is an intangible something which compels them to perform certain acts, an impulse which they cannot resist. The type of suggestive therapy or psychoanalysis employed by the old time family physician probably does as much in some cases as can be accomplished by strictly scientific practitioners to straighten the psychic kinks of obsessed individuals. The personality of the family physician is an important item, he gains the confidence of the patient and is able to reassure him that his malady is of no great consequence.

Ten days ago a man came to me complaining of indefinite symptoms referred to the gastro-enteric tract. Another physician had told him he had "abdominal congestion," that he was eating too much for a man of his weight, and placed him on a starvation diet. As a result the man was not getting sufficient calories to sustain him and as a result he rapidly lost weight. When he came to me he was obsessed with the idea that he had pulmonary tuberculosis. Careful physical examination disclosed no evidence of disease; the man was simply under-

nourished. With a full diet he rapidly improved and gained six pounds within five days. He has remained well since.

It is my custom in all cases to make a complete physical examination and if nothing wrong can be discovered I try to reassure the individual by impressing him with the fact that there is nothing the matter with him. If he is underweight and underfed, I tell him to eat more and get plenty of rest and sleep. This is the kind of psychoanalysis that I employ.

Patients are often obsessed in many ways, they have various phobias, they are fearful of sudden death, they know they have fatal heart disease, tuberculosis, kidney disease, etc. I recently saw a man with marked indicanuria, which he gave as his chief complaint; under medical advice he had starved himself for some time, and the more he starved the greater became his indicanuria. He recovered under full diet without other treatment.

Another man came to me obsessed with the idea that he had incurable heart disease. Thorough physical examination developed no evidence of disease and he was told there was nothing the matter with him, that his heart action was perfect, to go home and forget it. Within ten days he was well and has remained so. This method of management has been successfully used in many types of obsession, phobia, etc.

There is much buncombe about the subject of psychoanalysis. I have seen people ruined by the so-called Freudian psychoanalytic methods. It is a mistake to attribute every psychic twist to some repressed sexual complex, as it develops pornographic ideas which often result harmfully to the individual. We should utilize plain, old-fashioned common sense methods in handling these patients, explaining matters to them fully, gaining their confidence, then reasoning with them and reassuring them or sending them to plain sensible nerve specialists like Dr. Gardner.

I cannot believe that all obsessions, fears and phobias have a pathologic basis.

**M. Flexner:** Dr. Gardner has discussed in an interesting way a group of disorders which are more common than most people are inclined to believe. Scarcely a week passes that we are not consulted by individuals having some type of phobia. The fact is that every patient who consults the doctor for the first time has some sort of phobia. He is obsessed often with the idea that he has serious disease, yet physical examination may disclose nothing abnormal. We always have under observation a group of these patients who improve from time to time, then have recurrences often after long periods of normal mental activity which indicate that we have not discovered the real cause of their troubles.

In our base hospital there was a doctor who was an interesting specimen to me. He was a

typical mysophobiac; after shaking hands with anyone he would immediately go and wash his hands; when talking to anyone he was constantly going through the motion of hand washing. When water became scarce we had to threaten to court-martial him unless he stopped the habit.

Apparently Dr. Gardner is not a very strong advocate of the so-called Freudian methods, and I believe his idea is correct. I doubt very much whether all the various complexes can be explained on a sex basis. The so-called "mental catharsis" is often beneficial in these cases, as it allows the patient to unfold his life history in his own way. Oftentimes this will furnish the key to the situation and the physician can then be of some assistance to the patient by assuring him that not all his troubles are real. The very recitation of the inception of the insult is the thing that seems to help most.

**J. A. Flexner:** Dr. Gardner has introduced an immensely important proposition, as it embraces the entire field of psychosis, psychasthenia, and the purely mental disorder known as neurasthenia. The word neurasthenia is badly misused just as the word malaria was at one time. Many individuals come to us with the diagnosis of neurasthenia when the trouble is really psychosis or psychasthenia.

The hysterogenous zone described by Dr. Hanes is well known to every general practitioner of medicine. There are similar zones in various other portions of the body. Hysterical manifestations are closely related to psychic disturbances and there may be some relationship between hysteria and the doctor's questioning during physical examination. We should follow the plan outlined by Dr. Gardner; if we try to guide the patient by questions we may defeat the object sought to be attained; if we make suggestions the patient is likely to develop hysterical manifestations along the line of the suggested subjects. The obsessed individual should be allowed to relate his history in his own way without suggestions from the examiner.

I agree with the statement that the psychoanalytic methods of Jung and Freud have probably done more harm than they have accomplished good. However, the methods used here differ in many respects from those employed in European countries. The sexual complex element is accorded less prominence here than advocated by Jung and Freud.

**J. Garland Sherrill:** Dr. Gardner's paper is most interesting but a difficult one to discuss. I do not believe that every phobia or obsession is necessarily pathologic in origin. The element of fear has much to do with the proposition. To the surgeon, of course, the pathologic side assumes some importance, yet as Dr. Gardner has



told us, to benefit the patient we must relieve his mental distress.

It has been noted that goiter patients often exhibit psychoses of the impulsive type and are unable to control themselves. A young woman upon whom I operated for mammary carcinoma also had a small goiter, and it was noticed at the time that she talked rather volubly and it seemed to be somewhat irrationally. She recovered from the operation and was under treatment for the goiter. She became more and more impulsive and later shot and killed her father.

I now have under observation a young woman who has a small adenoma of the thyroid which is very toxic. She has tremor and other characteristic signs of thyrotoxicosis. She has the obsession that when anyone speaks of a death, or any distressing incident in her presence she cannot resist crying. The question arises what is the relation between her mental status and the diseased thyroid? How far are the two associated, and how can the condition be best relieved? Would thyroid or other glandular extracts overcome the local disease and at the same time relieve her obsession? By conversational effort I have convinced this girl that she is not in a serious condition, otherwise she would be unable to continue her duties as clerk.

I agree with what has been said about the importance of the old-time family physician and his methods of psychoanalysis. He comes into more intimate contact with the patient than surgeons and specialists.

**W. E. Gardner (Closing):** I wish to thank the gentlemen for their discussions. There can be no question that Dr. Hanes, in addition to the surgical relief of his patients, accomplishes a great deal of good by suggestion. While in rare instances phobias and compulsions may have an organic pathological basis to begin with, yet the essential factor is the psychopathological element in most instances, and when Dr. Hanes allows his patient to unfold his life's history, and by being a good listener, has gained his confidence, he is able to accomplish much by suggestion at the same time he may be actually treating a pathological condition, especially in those individuals who have fear of losing control of an organic reflex under very awkward circumstances. In other words, he has made a short analysis of his patient, and in most instances will find that in the cases similar to those he has related here tonight, the patient had at some time in the past, perhaps when very young, almost lost control of the anal reflex, when there was so much fright or emotional reaction, that when circumstances arise which are in any way related to those under which the phobia developed, he always has a recurrence of the phobia.

Dr. Morrison's reference to the way in which the old fashioned family physician handled the

psycho-neuroses, especially those cases which were essentially hysterical in origin, is certainly well taken. The family physician can often accomplish more in these cases than the specialist can, for he not only takes time to listen patiently to the story related by the individual, and does not suggest too quickly what the origin of the trouble may be, but excludes all possibilities of the presence of a bodily disease, and then tells the patient positively that there is nothing wrong with him, and if he be an individual of strong personality, it usually has its effect. However, if suggestive therapy is to be most effective, it usually requires some analysis of the patient's life and difficulties from the story related by the patient himself, and it is noteworthy that after a free talk of this kind, or a sort of "mental catharsis" as was referred to by Dr. Morris Flexner, the patient often leaves the physician greatly benefitted. I am sure that the church confessional as practiced by some of the denominations is often helpful, especially in those individuals who may happen to suffer from some of the psycho-neuroses, as it affords the individual an opportunity to unfold his troubles, life burdens etc., which he perhaps does not know how to do in any other way. Many of these are, of course, imaginary, but to have laid his burdens bare, and then be reassured that he is all right or that he will be taken care of, goes a long way toward a new self adjustment, and an ability to take hold of himself again.

I am sure that the repression of ideas into complexes, especially among young people, and under circumstances where there has been a great deal of fright or other emotional reaction, is an important factor in the production of the psycho-neuroses. Sometimes the child is cautioned too much by parents about doing or not doing certain things, until an element of fear is developed to an abnormal extent, and which may be retained as the child grows older, but is crowded into the unconscious to the extent that an actual repression occurs which craves for expression, and frequently appears in the form of an obsession, phobia or compulsion.

I agree with Dr. J. A. Flexner that Jung and Freud have carried their idea that all repressed complexes have a sexual origin to an unwarranted extent, and while the sexual instinct is the strongest in man, next to that of self preservation, and is perhaps repressed more than any other instinct, it is known that complexes may originate from many other sources than the sexual instinct. The English and American psychiatrists have assumed a much more reasonable position in regard to psycho-analysis than was taken by its early advocates, and yet they recognize its value.

Dr. Sherrill's reference to surgical pathology in connection with obsessions is important, and

the same answer applies here as it did in reference to Dr. Hanes' remarks. Naturally, any improvement in the physical condition of the patient is helpful in a neurosis. It has been well established that individuals who suffer from obsessions, phobias and compulsions are unstable in their nervous and mental makeup, and the lower the physical vitality of the patient is, the less stable he is mentally, and more explosions are likely to occur. Obsessions and phobias are sometimes noted in goitre patients, and whether this is a mere coincidence or that one is the result of the other it is difficult to say, but I would say that in Dr. Sherrill's case the patient should have the benefit of the doubt, and if the thyrotoxicosis be relieved, it might materially assist in overcoming the obsession.

You will recall in my paper that I spoke of the importance of improving the physical condition of the patient, of correcting his habits, of having him give up his work for a time, and doing everything possible so far as general hygienic treatment is concerned, before giving any attention to a psychologic investigation of his symptoms, and that if psycho-analysis be used at all, it be resorted to only in those cases which are intractable to all other forms of treatment.

### EYE STRAIN AS A CAUSE OF HEADACHE. \*

By J. F. DUNN, Arlington.

Headache is the most common pain with which humanity suffers. The causes are many and may be located far from the head. We are called upon daily and sometimes hourly to relieve that awful headache, which, of course, would be a very easy thing to do if we could only find the cause and remove it, but as the cause may be very, very far from the seat of pain we often overlook it from time to time and the patient becomes an aspirin fiend and is to be pitied rather than blamed.

Realizing the fact that headaches may arise from affections of the eye, the ear, the nasal cavity and its accessory sinuses, the teeth, the liver, the gastro-intestinal tract, the kidneys, the generative organs, the brain and spinal cord, the nervous system, and many other affections of the body, and sometimes from a combination of two or more of these affections, and also realizing the fact that our patients sometimes are not willing to have a pair of glasses fitted, their tonsils removed, their teeth repaired, their septum straightened, their turbinates removed, their gall bladder drained, and their appendix taken out, then,

is it any wonder that we often fail to remove their headache?

I am very glad, as well as this society, that our secretary assigned me, to the subject of headache as arising from only one of the above affections. That being the case, I shall try to confine my remarks to headaches arising from eye-strain.

As the subject of this paper signifies, headaches are caused by eye-strain, but what causes eye-strain? Eye-strain is caused by diminished visual acuity. This diminished vision may be due to one of the four following conditions viz: myopia, hyperopia, astigmatism, and muscular imbalance.

Myopia, (nearsightedness) seldom causes headache as they are unable to accommodate for far off objects and, consequently, confine themselves to objects at close range, which necessarily produces no effort on the muscles of accommodation, and when the muscles of accommodation are not taxed there is no headache. Therefore, simple myopia can be practically ruled out as being a cause of headache.

Hyperopia (farsightedness) on the other hand renders it difficult to maintain a distinct image of objects at close range, such as reading, sewing etc, for any long period. If this is persisted in for any great length of time the accommodation is exhausted and aching of the eyeballs and head result. Patients of this class readily find that they can not see to read and they do one or two things either of which relieves their headache. They either quit using their eyes for close work or in many cases go to the drug store and pick out a pair of glasses that they can see to read with which relieves their symptoms and but a small per cent of these ever reach the physician. Therefore, only a small amount of headaches arise from hyperopia.

Astigmatism is the condition that carries us into deep water. DeSchweinitz says that fully 70 per cent of all functional headaches are caused by astigmatism either alone or associated with other forms of ametropia. The headache may vary from a moderate frontal distress to a violent explosion of pain and may be situated in any portion of the cranium. He also says that the pain may be situated in the nape of the neck, between and under the shoulder blades, at the end of the spine, and deep in the mastoid. And, going beyond this paper, he also says that astigmatism may cause many other reflex nervous disturbances, such as vertigo, pseudochorea, habit spasm, epileptiform convulsions, melancholia, neurasthenia, tachycardia, night terrors, flatulency and other forms of dyspepsia, indigestion, and even constipation. Then if this be true, it is no wonder that the laity

\*Read before the Carlisle County Medical Society.



often say that "two heads are better than one if one is a sheep head."

Strange to say that a small error of refraction as a rule will cause worse headaches than large ones. In a large error many objects cannot be determined at all and therefore the patient does not try to recognize them and there is no strain on the ciliary body, but in a small error, especially a low degree of astigmatism the patient is able to see all objects however small, but can not see them plainly, for instance—F resembles P, H resembles K, and C looks like O. etc. and the persistency in trying to distinguish them causes considerable strain on the ciliary muscle, resulting in headache.

We are often surprised when a patient has prominent symptoms of eyestrain to learn on testing them out that their vision is 20-20 or better. We have seen patients with a vision of 20-15 in each eye, suffering with the most violent form of headache, which was relieved by the weakest cylindrical lens in the trial case. It is the borderline cases that puts to the test the general practitioner as well as the specialist.

Muscular imbalance causes a great deal of disturbance both to physician and patient. Often the specialist has been baffled when he tested each eye separately and prescribed what he thought to be the proper lens for the eyes, only to find that the symptoms failed to disappear.

As we all know each eye has six muscles which determine the action of the eyeball. When all of these muscles are performing their function properly both eyes fix on the object which is being viewed and only one object is seen, but if one or more of the muscles of one eye lose their tone then that eye deviates or turns out of its proper position and sometimes two objects are seen. The subject of muscular imbalance is a very large one, in fact, too large to consider in this paper, so we will only consider the form that causes headache. In this form the deviation is slight and the patient is not conscious of seeing two objects. Both eyes try to fix on the same object at the same time which is impossible, and in so doing there is eyestrain accompanied by headache. It is very difficult to diagnose as the only subjective symptom may be headache, and by inspection you may discover nothing. As a rule the only way to detect this condition is by the muscle test point, which is done as follows: place a small candle or flame 20 feet from the patient, put a colored lens or glass (for instance a red glass) over one eye and have him look at the flame with both eyes open. If there is any deviation in either eye the patient will

see two flames, a red one and a white one, varying from one to several inches apart, in which case you will likely have found the cause of the headache. If he does not see two flames there is positively no imbalance.

The main thing in this paper which should interest the general practitioner is not whether his patient has myopia, hyperopia, astigmatism, exophoria, esophoria, or any of the other phorias, but whether the patient's headache comes from eyestrain. If so he sends him to a specialist and it does not matter what form of eyestrain the specialist finds, nor what kind of lenses he puts in the glasses just so the patient comes home without his headache. That being the case we feel that we are just now coming to the most important part of this paper viz: diagnosis.

As we have already stated it is not always easy to diagnosis this condition as there are so many wide variations and there is no set rule laid down to guide us. The majority of these headaches come on as follows: the patient gets up in the morning free from headache, but as the day progresses and he resumes his regular task, such as reading, saw-filing, sewing, or stenography, his headache begins. As a rule it is a temporo-frontal headache with aching eyeballs, but remember that we said in the beginning that the pain might be situated anywhere from the lower border of the scapula to the cornea and don't be too quick to rule out eyestrain if the pain is not in the front part of the head. In many cases the headache disappears as soon as the patient stops using his eyes for close work, others have almost a continual headache except when they are asleep. Other symptoms which they may have in connection with their headache which may aid us in making our diagnosis are blurring of the letters in reading, their eyes tire easy and water, repeated attacks of conjunctivitis, or they may be troubled with styes often.

I believe every doctor should have a test chart in his office and in all of his doubtful headache cases he should test their eyes, and, finding their vision less than 20-20 either with or without some of the above named symptoms, he can be pretty certain that it is a case of eyestrain. But if you are still in doubt, there is another method which is positive, but which may be objected to on account of the patient's occupation, and that is the installation of atropine. Put one drop of a 1 per cent solution of atropine into the eyes three times a day for three days. This paralyzes the accommodation and if there is any eyestrain there it will absolutely relieve it for the time being.

## TREATMENT.

There are two forms of treatment which have been sorely tested, viz: palliative and curative. The palliative treatment covers a multitude of drugs such as aspirin, the coal tar derivatives, the bromides, opiates, proprietary measures, and all kinds of patent dopes, all of which are only temporary and unsatisfactory. We have all had patients that have taken barrels of some of the above named remedies and have drifted about from "pillow to post" with no relief except temporary.

The curative treatment consists only in the proper fitting of glasses to the patient's eyes which alone will relieve all their sufferings.

---

DEMENTIA PRECOX. \*  
CASE REPORTS.

By H. B. SCOTT, Louisville.

CASE I. C. L., aged twenty-one years, male, white, admitted October 7, 1923. Father living at forty-six; mother died when twenty-four years old three months after childbirth; had puerperal mania; her brother and mother both died in the asylum.

Previous history; During February, 1923, he said some boys were watching him; also that men in the shop where he worked were "shooting electricity into him." On April 5th he became violent when offered some candy, claiming they were trying to poison him. Under treatment he had a remission which lasted several weeks. Again he imagined people were after him and sent to the country where he remained quietly for three months during which time he was rational. After he returned home he claimed that he was being poisoned and that electricity was being put on him. He began staying up at night watching for and threatening to kill those who were torturing him. At this period he ran away from home to escape his tormentors. He was caught and admitted to hospital October 7th 1923.

Physical findings: Patient fairly well nourished, and with the exception of loss of weight the physical findings were negative. Blood Wassermann negative.

Present history: Patient complains that electric currents are being "shot into his forehead" and that people are trying to poison him. When his relatives visit him he tells them to leave, that he might kill them. He imagines that people in general are conspiring against him. There is no mental deterior-

ation as yet. Diagnosis: dementia precox, paranoid type.

Prognosis: These cases may have slight remissions but do not make complete recoveries. They usually progress to a state of paranoid dementia.

CASE II. O. D., aged seventeen, male, colored, admitted October 29th, 1923. Parents died when patient was very young. No definite history.

Chief complaints: (1) headache, (2) pain in side, (3) constipation, (4) insomnia.

Previous history: Patient had suffered from headache since last June; the headache appears at night and keeps him awake; it also seems to cause him to become irritable and he wants to fight. When constipated the patient becomes uncontrollable and will run out doors if not restrained by force. The attacks last from three to five minutes. He has grown worse during the last three days. Pain in side seems to be secondary to constipation and headaches. No defecation for five days prior to admission to hospital.

Physical examination: Patient well nourished and well developed. He made no effort to talk at first and for several days after admission would say scarcely anything. And while seeming to understand everything would stand as if mute. No abnormal physical findings. Blood Wassermann negative. Nervous system negative except he is slightly nervous at times and this became exaggerated upon examination.

On October 31st, after various methods, patient was induced to talk some. He said that someone had taken advantage of him, but did not say who it was. He states that he is worried about his people; that he did have a father and mother but they deserted him; that he is "God on earth" and can prove it by the Bible; that he can show why he is God and from whence he came. He seems to be antagonistic to the white race and says that he is as "smart" as the white man even though he is colored. States that he cannot reveal all he knows because others would gain too much knowledge from him. Thinks this earth is a Hell and the student during the quizzing is a Devil. Has no idea of time, day or week or month. He refuses to talk further and seems to be undecided whether he should live or die. Patient stands and stares saying nothing, but will at intervals start, change position, and smile at apparently nothing. Diagnosis: this patient besides having well systematized delusions of persecution, also has mutism and some stereotypic symptoms characteristic of the catatonic type, but after considering these I place him in the paranoid class of dementia precox.

\*Read before the Jefferson County Medical Society,



**Prognosis:** He may have some remissions if the constipation which seems to be a causative factor can be controlled.

**CASE III.** E. D., aged thirty-two, male, white, admitted September 6th, 1923. Mother living in good health; father dead. Family history good.

**Previous history:** Patient was hit behind the right ear with a ball bat nine years ago, and has shown a mild demented condition for about seven years. He stands in one place for hours and says nothing; has been known to stand in front of an automobile and not move even though he saw the car coming toward him in full speed.

**Physical findings:** Patient poorly nourished; no physical abnormalities; Wassermann negative; blood negative; no peripheral analgesia. Patient will say nothing therefore unable to determine orientation or any ideas. He stands in one position and will assume attitudes for hours. When one of the upper or lower limbs is placed in any position, it will be permitted to remain in that position for some time. **Diagnosis:** a differential diagnosis must be made from confusional insanity of the catatonic type. There being no peripheral analgesia, the mutism, mental deterioration and stereotyped symptoms are sufficient to place the case in the catatonic type of dementia precox.

### DISCUSSION.

**John J. Moren:** If there is anything I know very little about it is dementia precox. The literature is filled with descriptions and discussions pro and con, but there is no definite and distinct information as to what causes it nor the pathology that is left behind.

There is only one statement I would like to make which may possibly be of some interest and service: Whenever a young man between fifteen and twenty-five appears showing lack of interest, lack of feeling in his home life with retention of memory, I become very suspicious of that young man's future. There is one thing that is characteristic of all these cases of dementia precox and that is loss of feeling or lack of emotion with retention of memory, and I am always very guarded in making a prognosis as to the future of such individuals.

**Thomas F. Hale:** I am entirely in accord with what Dr. Moren has said. Dementia precox is a disease which is not understood except in the possibility of there being some congenital deficiency in the individual.

As Dr. Moren has said, one of the most striking things about these cases, and also one of the most hopeless, is the loss of social feeling and the emotional nature of the individual. Rarely do these patients fully recover; indeed it may be an open question whether any of them recover; it is a matter subject to dispute.

The paranoid type is rather interesting because of its relationship to paranoia, and there are many observers who consider that paranoia itself is nothing more than a mild type of dementia precox. This is also subject to controversy, and has not been substantiated.

The question whether dementia precox is due to some general somatic disease is very important. There are many who consider that all patients with dementia precox have tuberculosis. It is true that not a few dementia precox patients have tuberculosis, but whether tuberculosis is responsible for the mental change is debatable.

**H. B. Scott (Closing):** It is true that the subject of dementia precox is not so well understood, at the same time we not infrequently encounter a great many of these cases and have to classify and try to do something with them. There are some very close distinctions which have to be made. When we see a patient with symptoms of acute confusional or acute toxic insanity, we have to differentiate that from the catatonic type of dementia precox, because in the toxic insanities we can offer a very good prognosis, from 85 per cent to 90 per cent recoveries; whereas in the catatonic type of dementia precox a much graver prognosis must be made, perhaps 15 per cent of recoveries. So while we do not know very much about dementia precox we have to make these distinctions and classify our cases here in the hospital.

---

In a case cited by Chester C. Guy, Chicago (Journal A. M. A., June 28, 1924), discharging sinuses in the region of the greater trochanter communicated, through the acetabulum, with an abscess cavity in the pelvis on the inner surface of the ilium. March 22, 15 c. c. of a 1 per cent. solution of mercurochrome-220 soluble was injected into the sinuses after irrigation with physiologic sodium chlorid solution. This was repeated daily, and a marked decrease in the amount of the discharge was noted. Improvement continued until April 10, when the patient began to complain of soreness in the gums, profuse salivation, loosening of the teeth, and diarrhea. These symptoms increased rapidly in severity, and the next day the injections were stopped. Two weeks later, the stomatitis and diarrhea had entirely disappeared, and they have not recurred since.

## HEAD SEQUELAE OF INFLUENZA.\*

By C. W. REYNOLDS, Covington.

The subject, Head Sequelae of Influenza, was not chosen just for the purpose of having something to say that might be original, but for the sole purpose of laying stress upon the importance of the involvement of structures that lay close to the cranial cavity and its important contexts.

We all realize the dominating role played by the brain in enabling man to rise to heights beyond what is possible in any other animal on the globe. Necessarily any condition that may bring or cause changes in the normal functioning of this intellectual unit of the human being must perforce at once compel us to recognize its importance.

While the head sequelae of influenza are not new per se, still they have occurred so frequently, that naturally they attract our attention and warrant us in considering the whys and wherefores of such an association.

A study of the germs found in this disease show that they cover quite a few types, the severity depending upon the combination the types assume, and also the soil upon which this grouping may occur.

Influenza, through its toxæmias and the depressing conditions that accompany the disease, has shown quite a swath of complications and sequelae that serves to break down the underlying vital resistance and may leave the body a wreck, to be gathered later to the dust from whence it sprang, and this, years in advance of what might have been otherwise.

The greatest damage is noted along the course of the air passages and seems to be more virulent in the lungs and in the nasal accessory sinuses than elsewhere.

If the respiratory tract through the head consisted of only the turbinates, and these were made of solid bone, and the meatuses and the septum, the field would be so narrowed as to be ignored for any real serious difficulty. But nature has certainly complicated matters, for there are numerous sinuses, all of which have a normal function, firstly by their composition of large osseous cells, lined by mucous membrane, they give a larger field for performing their normal function and at the same time are not unduly heavy; secondly they serve to break up some of the jars of the body, which otherwise would be passed on to the delicate brain substance; thirdly they furnish the secretion which is normally present to keep the parts in a healthy condition, and lastly, they serve

as a modulator of the voice, and enable the individual to detect odors.

As already stated the mucous membrane of these structures being continuous with that lining the rest of the air passages, it can be seen how readily it may be invaded by germs growing on the adjacent structures of the nose.

It is only in recent years that the importance of this subject has grown. It has come to be recognized, that disease of these structures may cause any degree of damage, from the slightest disturbance of the normal function, up to complete destruction not only of the parts involved but also to life itself, from the close proximity to the cranial contents.

The nose is the main channel by which the air, naturally passes up interruptedly to the parts beyond. Nature has endowed it with structures capable of handling the conditions that ordinarily arise in the primitive state. However Nature could not foresee the dangers of modern life, with its dusts and smoke, and harmful gases produced in our day and generation, so when the load piled upon the nasal structures passes the line where nature has been able to maintain the equilibrium, between the attacking and repelling forces, then the structures begin to suffer from the onslaught and the phenomena of disease begin to make their appearance.

Such a contest is seen, when in addition to the ordinary demands made upon the nasal mucous membrane, there is an invasion of germs, which grow rapidly at body temperature, when the soil is suitable. Once a foothold is obtained, and the conditions are just right, the rush is on, and the germs spread to the various parts of the nose and the accessory sinuses and the fight for supremacy is on.

The openings to these various sinuses are not large, and when the sinus becomes involved, these openings become more or less occluded, the increased discharge becomes dammed back and symptoms of pressure and absorption begin to be present. This can be said in a general way and only differs in degree and effect by reason of the individual sinus involved and the extent to which the process has developed.

Owing to the compact position in which the important nervous system is placed within the cranium and also to the fact that from this governing center, its various branches must go, passing through osseous foramina and through or between bony structures, it will be readily seen that an enlargement of one part beyond the normal, may result in serious pressure being exerted upon near-by structures.

\*Read before Campbell-Kenton County Medical Society.



Stopping the exit of any drainage canal will result in an accumulation of the normal secretion back of that barrier and produce pressure depending upon the amount of obstruction, the power that this obstruction has to resist the pressure back of it, and the effect of the pressure, induced by the retention of this secretion upon the walls of the sinus, the giving away of the weakest part of the wall. The involvement of the surrounding tissues, either through the lymphatics or veins, and the absorption of the various toxins which may be formed from the inflammatory condition.

This grouping of the various factors at work in the conditions under consideration has been done, since it is not the purpose of this paper to enter into a full discussion of the head sequelae of influenza, for to do so would require a voluminous paper and would consume more than the time that should ordinarily be allotted for the reading of a medical paper.

The precursor of these sequelae is usually an acute rhinitis; although this acute attack may be grafted upon a chronic rhinitis, or sinus trouble which has not given any serious inconvenience to the patient.

The probabilities are that wherever the rhinitis is the most intense, should the opening of any of the ducts from the sinuses be involved, that that particular sinus will be the one that will be especially attacked.

Up to a certain point the initial symptoms may be identical, that of a profuse coryza with all the general symptoms of a so-called "cold" in the head or grippe, then either this subsides and is followed with the sinus symptoms, or else the sinus symptoms are present before the coryza symptoms subside.

As is familiarly known, the first stage in any cold or inflammation is that of hyperemia and if a membrane is involved, it will be drier than normal, then follows the stage of secretion of the inflammatory products, varying from serum to pus, mixed with normal secretion, be that mucus or that which is peculiar to the structures involved.

A brief summary of the sinuses and structures involved in the sequelae, the frontal sinus, maxillary sinus, ethmoid cells, sphenoid cells, and finally the involvement of the ear structures, will now be discussed.

Frontal sinus involvement is not to be expected before the twentieth year as these sinuses, being involved from the anterior ethmoid cells are not formed earlier.

Frontal sinus infection is indicated by a severe, continuous, frontal headache, pain about the eyes, tenderness over the sinuses on percussion and on pressure beneath the supra-

orbital ridge. Should the pressure be sufficient to break down the posterior bony wall, symptoms of purulent meningitis may be present, being indicated by drowsiness, headache, stupefaction, etc. The extension from the frontal to the ethmoid may be sufficient to encroach upon and press upon the eye-ball.

Frontal sinusitis is not frequent except following an influenzal condition. The diagnosis can be made from the X-ray examination, provided the other side is normal, otherwise there may be some uncertainty, due to the osseous thickness already present. Wiping away the discharge in the nose will reveal pus in these cases, flowing downward from the point of exit of the frontal sinus duct. Transillumination of the frontal sinuses will show the sinus illuminated up to its superciliary ridge, while pus causes the illumination to be dark.

When the antrum of Highmore is involved there is a sense of pain or an abnormal feeling in the cheek, either in the antral, orbital or frontal regions, or in all, varying in degree with the amount of pressure within the antrum.

On contracting the turbinates, the pus may be seen escaping into the middle meatus, or else a pulsating movement may be seen in a small drop of pus, that may block the opening. Pressing over the maxillary sinus or tapping a tooth, which may feel longer than it should, to the patient, may reveal tenderness.

Considerable swelling may be seen in the cheek on the affected side, due to the irritation set up in the antrum.

The mucous membrane of the nose, as already stated, extends into the ethmoid cells, and lines them, just as it does in the mastoid cells, this intimate relation affording a ready means of spreading the infection to the underlying bones and osseous cells, as it serves as a periosteum, and so may readily lead to caries and necrosis of these bony cells.

The pain present in these cases is referred to the root of the nose, and to the orbital and temporal regions and the swelling resulting from the extension may cause a very pronounced bulging between the eye and the nose and causes the eyelids to become unduly prominent from its being pushed forward and outwardly.

The referring of the pain to the root of the nose and back of the eyes and the eye symptoms on the part of the eye help to clear up the diagnosis. X-ray plates may be of material service.

The discharge is generally seen where it occurs in antral disease; but in ethmoidal complications, the sense of smell is more or

less markedly impaired and may be completely absent.

Suppuration may extend to the orbit and to the meningeal membrane.

Antral inflammation may be co-existent with the ethmoidal disease.

Involvement of the sphenoidal sinus may be more difficult to ascertain, as transillumination is out of the question, and the symptoms are not pathognomonic of disease of these cells, as compared with ethmoidal infection.

The pain is deep-seated. The discharge empties into the throat. Dimness of vision, strabismus, and prominence of the eyeball are characteristic of this disease.

The middle ear and mastoid complications are the ones most frequently mentioned, as the symptoms on the part of these structures are almost instantly noted by the patient, through impairment of hearing, while the nasal discharges are attributed to a "cold in the head" and no thought is paid to the fact that the greater part of this discharge may be made up to the inflammatory secretions of the sinuses. Hence but little notice has been paid to the sinus involvement of the cases, whereas the presence of a pain about the ear, causes the patient to consult a physician at once.

One can readily understand how the middle ear and mastoid may become readily infected, by simply holding the nostrils firmly and endeavoring to blow the nose by elevating the pressure in the nose which will cause the inflation of the Eustachian tube and middle ear, shown by the sound on the tympanum produced by the movement of the ossicles and the pressure exerted on the tympanum and other membranes filling in the foramina; while the opposite effect may be obtained by holding the nose, closing the mouth firmly and then by expanding the chest by muscular action, cause a retraction of the drum, and partial aspiration of any fluids that may be in the Eustachian tube. This same phenomenon may be present in the case of the other cavities, but is not perceived, unless they are inflamed, when the increased pressure causes pain. These procedures show the freedom of communication between the nose and ear as well as with the accessory sinuses and will be taken into consideration subsequently in this paper.

In considering the nose in connection with the accessory sinuses, we must realize that the mucous membrane lining these structures, would if it were or could be spread out, cover a very large surface. Now consider how much discharge, serous or otherwise may come from a small section of skin, which has been de-

nuded of its superficial layers, allowing the exudation of serum and other material to take place. It will now be readily realized what an immense quantity of discharge may appear, when the larger area involved in the mucous membrane of the air passages, begins to function at an increased rate, due to inflammatory causes. The phenomenon of a nose "running like a hydrant" would be expected as a natural consequence in comparison with the amount poured out from minor lesions, and becomes more apparent when it must perforce have to pass either from the anterior nares or else down the throat through the posterior nares, or else be damned back and cause pressure symptoms, if it does nothing worse.

Nature causes this increased secretion for the express purpose of getting rid of the irritation or exciting cause, and we must remember this in our consideration of the sinus invasions.

In sizing up the effect produced by the disturbance of the normal balance, which is usually brought about by disease, we must remember that the walls to these sinuses are but frail partitions of bone, which may readily disappear under excessive pressure and the effect on the body economy by the disease of these structures becomes readily apparent.

Whatever is done to alleviate the abnormal conditions must be done with due consideration of the above fundamentals and the result should be obtained by assisting, rather than disturbing and retarding the forces that nature has at its disposal in endeavoring to regain control and eliminate the abnormal state.

Unless one has had sinus disease, the effects of this disturbance can not be really appreciated, although its effects on the patient may be seen.

The choice of this paper's title was suggested by the fact, that when called upon for a subject, the writer was just getting over an attack of frontal sinus infection, incident to a so-called grippe or "flu."

A little digression will here be made to show how it feels to be the goat.

The attack began as an ordinary head "cold," fairly free coryza, for which I did nothing in a medicinal way, as the distress was not annoying and so I did not depart from my usual routine as far as I am concerned, in these head "colds," whenever I have them, which is very seldom. After several days a headache appeared. For this 10 grain doses of salicylate of soda, and a like quantity of bicarbonate of soda were taken. This did not relieve the distress, I then perceived that this distress was more pronounced after



blowing the nose, than it was prior to so doing. Following the blowing it seemed as if a knife was being thrust into my head, more pronounced in the frontal regions.

When I did not blow the nose, the headache was relieved by the salicylate treatment; but would re-appear upon blowing the nose. I ceased, blowing and tried an experiment upon myself, that of forcibly drawing the air in through the nose, each nostril separately, and then spitting the aspirated secretion into a suitable container. This secretion was purulent. My headaches ceased, and in several days the discharge changed its characteristics and soon ceased.

I had a run of similar cases in my practice subsequently and had them follow out the lines of my experiment, using a menthol atomizer and a salicylate preparation internally.

All these cases did nicely and got well promptly with no ear or other complications.

Do what is possible to favor the escape of the secretions; but do not, by blowing the nose, force back what nature is doing her level best to throw out and get rid of.

Relieving the congestion about the orifices of these ducts, and the discharges from the sinuses will flow more freely.

Most of the sinus cases get well without operative interferences in fact they will probably do better than when interfered with surgically.

Still surgical relief must not be lost sight of, as in some cases, it will be necessary to resort to such relief.

Harmon Smith of New York has a suction sinus syringe, which must be used by the rhinologist and does nothing more than was hinted at in this paper a few minutes ago, when the nose is held and the lungs expanded by muscular action, no air being allowed to enter, thus rarifying the air in the air passages, causing the discharge to be sucked out, the same being done to a minor degree, in forcible inhalations of air. These latter procedures, especially the latter can be done often by the patient and serves to keep the passages fairly open.

Should any solutions be used in a sprayer, caution must be exercised to lower the head, allow the excess to drain out, and if the nose is to be blown, to blow easily on one side at a time; but better clear the head by the forcible inhalation. Then use a menthol spray.

Surgical technique, as is necessary in the various operations on the sinuses, or in puncture of the tympanum, or in the mastoid operations will not be given in this paper, as their discussion and enumeration would make this paper a very voluminous one and would

not add any stress to the point that this paper wishes to bring out—and that is the harm that must necessarily arise from any cause that produces an increase of pressure within the nose and the accessory sinuses, especially when they are the seat of an infectious inflammatory process as is found in the flu invasion of the respiratory passages in the nose.

It is the duty of the family doctor to caution the patients against the greatest dangers that may ensue from his harmful blowings of the nose as is practiced by most patients when ever the nose is congested and feels as if an obstruction were there, and which they believe they can remove by forcibly blowing of the nose.

The involvement of the veins and lymphatis was mentioned in the paper but it was not discussed, as it was considered a good item to consider at this time.

Phlebitis and lateral sinus thrombosis and further extension of the process through the veins is a very serious condition and in some cases may not be readily diagnosed as separate from the sinus disturbances, if there are no symptoms of pressure manifested by paralysis of certain sets of muscles, as is the strabismus in indicated in basilar trouble.

To show how symptoms may mask the thrombosis of certain veins in the cranium, a case illustrative of the importance of early diagnosis if possible will be described.

In 1894 a case was admitted at the Ann Street entrance of the old Cincinnati General Hospital, which was diagnosed as typhoid fever. It was admitted to the East Medical and remained there until she died. A post-mortem was performed upon the corpse, under the direction of Dr. Leonard Freeman, the writer doing the autopsy.

The history of the case as brought out by the interne did not mention an old ear trouble of several years before. However I anticipated the finale of this case.

The symptoms were those of the typhoid state, the patient gradually lapsing into a state of stupor, with considerable cough.

The intestinal canal was absolutely normal, as were the other abdominal organs. Upon opening the thorax, the lungs were apparently normal. These when opened, showed multiple abscesses, the size of small cherries, most of them being the size of peas. Dr. Freeman, here gave the history of a case, noted in one of the journals at that time, and which he had just finished reading, showing where a latent mastoid had involved the lateral sinus, thrombosis of the jugular, through which could be found minute abscesses and metastatic abscesses in the lungs. Such was found

to be the course of the disease in the case upon which the autopsy was being performed.

The patient had apparently good hearing in both ears on entering the hospital and did not have any discharge which she was suffering from a pseudo-typhoid fever.

The influenza or other exciting cause may leave the sinus in such a diseased condition as to give rise to the subsequent development of polypi with their train of symptoms, annoying to the patient to say the least.

### CASE OF PARAPLEGIA.\*

By. E. S. ALLEN, Louisville

This little patient, B. D., aged three years, was brought to my office today. I heard of the case a month or two ago, having operated upon her grand father about that time. When this child was born the presentation was a breach and the labor was difficult. She had paralysis of the left arm following birth which disappeared in two months, but she now has complete paraplegia and has never been able to walk. There is some reflex sensation, the child cannot stand alone, sometimes there is a little reflex motion on tickling the sole of the foot. The child is well developed, has no painful areas and no fever. Roentgen-ray examination of the spine is negative.

The case is interesting to me especially in regard to the cause of the paraplegia. The parents believed the original paralysis was due to injury at the time of birth, but in my opinion there has been some nerve injury. The father states now that both arms were paralyzed for a few days after birth. There is some contraction of the fingers. The child has no urinary dribbling or incontinence; urine is voided at intervals, but she does not call the parents attention to a desire to either urinate or defecate.

### DISCUSSION

**John J. Moren:** In the case reported there is evidently an injury or lesion confined to the upper neuron, that is the neuron leading from the cerebral cortex to spinal cord. The paralysis which the child has is spastic in nature; the reflexes are exaggerated with Babinsky toe for and trifle flexion which is conclusive evidence that it is an upper neuron lesion. Whether the lesion is confined to the cerebrum or in the spinal cord is a question. Based upon the history as related it occurs to me that the lesion must be in the upper cervical region involving only the fibers leading to the lower extremities. I do

not believe I have ever seen another case with a history exactly like this. I have seen a number of instances of paraplegia from cerebral lesions, so-called Little's disease, with spastic paralysis of the lower extremities.

The most important question is the prognosis. It is my opinion that the child will never regain very much use of the lower extremities. It is interesting to note that the child has practically no use of its back muscles.

### BOOK REVIEWS

**Genito-Urinary Diseases and Syphilis.** — By Professor Henry H. Morton, Long Island College Hospital. Fifth Edition, revised and enlarged with 328 illustrations and 38 full page colored plates. Physicians and Surgeons Book Company, Publishers, 353 West 59th St. New York.

The most modern thoughts in these particular lines are presented in this volume. A complete chapter on blood chemistry has been contributed by Dr. Louis C. Johnson, Assistant Professor of Medicine to the King's County Hospital.

**Pathological Technique: A Practical Manual for Workers in Pathological Histology & Bacteriology,** including directions for the performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank B. Mallory, M. D., Pathologist to the Boston City Hospital; and James B. Wright, M. D., Pathologist to the Massachusetts General Hospital and Assistant Professor of Pathology, Harvard Medical School. Eighth edition, revised and enlarged. Octavo of 666 pages with 180 illustrations. Philadelphia and London: W. B. Sanders Company, 1924. Cloth \$6.50 net.

For years a standard, this new edition, because of the thoroughness of the revision it has undergone, will be adopted even more widely.

The heaviest revision is to be found, perhaps in the sections on Bacteriology, Serum Diagnosis, Blood and the Central Nervous System. A new chapter on the examination of the spinal fluid has been added, and also one on the method of opening the skull in the new-born. Brief but adequate directions for Photography of Gross Pathologic Specimens and for Photomicrography have been included.

Other sections which have been entirely or in great part re-written are those on Pigments, Fats and Lipoids, and Museum Preparations.

\*Clinical report with exhibition of patient before the Jefferson County Medical Society



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the  
Postoffice at Bowling Green, Ky., under act of Congress,  
March 3, 1879.

Subscription Price .....\$5.00  
PRINTED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

C. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. B. MCCLURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. MCMURTRY .....Louisville

W. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

### FOURTH DISTRICT

O. Z. AUD .....Cecilia

### FIFTH DISTRICT

C. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

R. C. MCCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

F. A. STINE .....Newport

### NINTH DISTRICT

A. T. BRYSON .....Ashland

### TENTH DISTRICT

R. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

W. M. MARTIN .....Harlan

### SECRETARY-EDITOR.

ARTHUR T. MCCORMACK .....Louisville

### BUSINESS EDITOR

L. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

H. A. COTTELL .....Louisville

J. K. FREEMAN .....Louisville

### ASSISTANT EDITORS

#### UROLOGY

OWSLEY GRANT .....Louisville

#### DERMATOLOGY

S. A. STEINBERG .....Louisville

#### GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

#### PEDIATRICS

P. F. BARBOUR .....Louisville

#### OBSTETRICS

EDWARD SPIDEL .....Louisville

L. C. REDMON .....Lexington

#### EYE

ADOLPH O. PFINGST .....Louisville

#### EAR, NOSE AND THROAT

C. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

R. H. COWLEY .....Berea

#### ANESTHETICS

W. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Boyd:** On May 29th the Boyd County Medical Society met at the Hotel Ventura with twenty-five members gathered at the festive board and enjoyed a fine dinner and at the same time had a good "chat" with his neighbor and colleague. Following the dinner M. B. Clayton read a very interesting paper on Psychoanalysis.

On June 10th the society met at the Kings' Daughters Hospital. A paper on Scarlet Fever was read by Proctor Sparks. E. R. Fitch gave a paper on Summer Diarrhea. A. J. Bryson reported cases of Measles and Chicken-Pox occurring separately in twins. On a later visit to this family he found the conditions just reversed—the one first having Measles now having Chicken Pox and the one having Chicken Pox now having Measles. C. E. Williams reported the progress of a case of Lethargic Encephalitis.

LESLIE H. WINANS, Secretary.

**North Eastern Medical Association:** The North Eastern Kentucky Medical Association held a most interesting session at Paintsville on Tuesday, May 20, 1924. The meeting was not as fully attended as it should have been but what was lacking in numbers was made up in enthusiasm of those present. J. M. Salmon of Ashland read a most excellent paper on Cancer and other diseased conditions of the bowels and rectum. E. E. Archere on Osteomyelitis and Dr. Donans one on Focal Infection. These different papers were fully discussed by the association. The Paintsville Van Lear Rotary Club who are always ready and willing to do anything for the upbuilding of our community and state entertained the association at dinner. Rotarian Rev. Reese delivered the address of welcome to their guests, which was responded to by Z. A. Thompson of Pikeville, who is president of the association. Ex-Mayor, R. C. Thomas, gave, on behalf of the town of Paintsville, the address of welcome which was responded to by the president.

The Johnson County Medical and Dental Society gave a banquet at night at the Rule Hotel for the Association, and an up-to-date dinner, such as the Rule Hotel can give, was spread. Hon. Jas. W. Turner of Paintsville and J. M. Salmon of Ashland gave snappy toasts. Mr. and Mrs. R. C. Thomas accompanied by Miss Mary Salyer sang two beautiful duets. We were also furnished two excellent readings by Miss Clapp of the John C. C. Mayo College, and we would not forget to tell you that the Paintsville Orchestra was on hand with their excellent renditions which were greatly enjoyed.

G. V. DANIEL, President.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



—THE—  
**Brown Hotel**

4TH AND BROADWAY  
LOUISVILLE, KENTUCKY

*Headquarters Kentucky  
Medical Association - 1924*

\*  
700 Rooms

700 Baths

Circulating  
Ice Water

\*



Moderate  
Rates

Popular  
Prices

Coffee Shop

Centrally  
Located

*THE newest and finest hotel in the South  
has been selected as Headquarters for  
the September meeting, 1924.*

*Every comfort and convenience at most reasonable  
rates is assured at the first meeting of the Associ-  
ation since the completion of this beautiful Hotel.*

*We extend you a cordial welcome and prom-  
ise that you will enjoy your meeting at the*

**BROWN HOTEL**

CARL M. SNYDER, Manager

ANNUAL NUMBER

# KENTUCKY MEDICAL JOURNAL



**Being the Journal of the Kentucky State Medical Association**

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00  
Single Copy 50 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

**VOL. XXII.**

**BOWLING GREEN, KY., SEPTEMBER, 1924**

**No. 9**

## **CONTENTS AND DIGEST**

### **EDITORIALS**

THE REPORTS.....	307
THE PROGRAM.....	307
AT OUR HEADQUARTERS.....	309
TO GOLFERS.....	310
A NEW HOSPITAL.....	310
MIND AND MEDICINE.....	310

### **SCIENTIFIC EDITORIAL**

PEDIATRIC SECTION OF AMERICAN MEDICAL ASSO- CIATION, By P. F. Barbour.....	310
---	-----

### **OFFICIAL ANNOUNCEMENTS.**

PRELIMINARY PROGRAM.....	311
PROGRAM OF THE EYE AND EAR SECTION.....	312
PROGRAM SURGICAL SECTION.....	312
OFFICIAL CALL.....	313
CONSTITUTION AND BY-LAWS.....	314
AUDITOR'S REPORT.....	321
REPORT OF THE COUNCIL.....	331
COMMERCIAL EXHIBITS.....	335

(Continued on Page V.)

## **JUST READY—3rd EDITION**

# *Norris and Landis' Chest Diseases*

The revision of this new edition has been heavy, some parts of the work having been entirely rewritten. A great deal of matter has been added and that already included has been brought right down to date.

Included in the new material are shallow breathing, cyanosis, cyanosis in pneumonia, heart pain. The section on "effort syndrome" has been virtually rewritten with the addition of a section on vagus pressure. The section on the electrocardiograph has been so thoroughly revised that it, too, is virtually new. There have been added sections on electrical axis of the heart and acute dilatation and terminal arrhythmias. The entire section under symptoms, physical signs and diagnosis of pulmonary embolism has been rewritten, with the inclusion of a new section on fat embolism and air embolism.

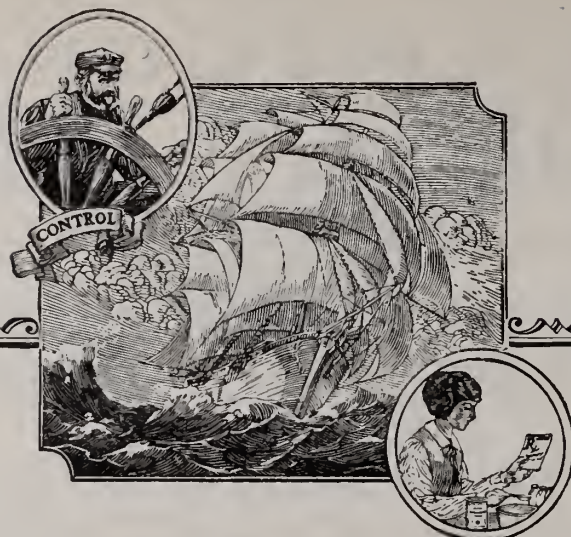
There is a new section on arteriosclerosis and on thrombosis of the pulmonary artery. There is a new section on rupture of the heart, another on tuberculosis of the heart, another on tumors of the heart, another on coronary thrombosis covering several pages and including etiology, pathology, symptoms, physical examination and differential diagnosis. There is a new section on mycotic or bacterial aneurisms in young children and adolescents and a section on diseases of the trachea.

*Diseases of the Chest and Physical Diagnosis.* By GEORGE W. NORRIS, M. D., Professor of Clinical Medicine at the University of Pennsylvania; and H. R. M. LANDIS, M. D., Director of the Clinical and Sociological Departments of the Henry Phipps Institute, University of Pennsylvania. Octavo of 907 pages, with 433 illustrations, some in colors. Cloth, \$9.50 Net.

**W. B. SAUNDERS COMPANY**

**Philadelphia and London**





# The Control of Infant Feeding

The Baby who is under a Physician's Supervision is like a Ship in the Hands of an Experienced Captain.

The ship is responsive to every turn of the wheel—the crew obeys every command of the captain—the *captain controls* his ship.

When the doctor prescribes a feeding formula on his own prescription blank the mother obeys his instructions, and the baby is responsive to his diet. Mead's Infant Diet Materials have no directions on the package to interfere with the doctor's prescription—the *doctor controls* his infant feeding *throughout the entire feeding period*.

## MEAD'S DEXTRI-MALTOSE

*Cow's Milk and Water*

Mead's Dextri-Maltose (Dextrins and Maltose) is assimilated by infants in greater amounts than other sugars before reaching the limit of tolerance and is less liable to cause digestive disturbances. Mead's Dextri-Maltose, cow's milk, and water, gives gratifying results in the majority of infants intrusted to the physician's care.

## MEAD'S CASEC

*Cow's Milk and Water*

Many physicians are finding protein milk helpful in their cases of summer diarrhoea. Protein milk made with Casec enables the mother to follow easily and accurately her physician's instructions—it will not clog the nipple. With Casec the percentage of protein can be governed by the physician at will.

*Samples of DEXTRI-MALTOSE and CASEC, together with literature describing their use will be sent to any physician on request.*

## THE MEAD JOHNSON POLICY

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & CO., EVANSVILLE, INDIANA, U. S. A.

163 DUFFERIN STREET  
TORONTO, ONT.



40 & 42 LEXINGTON STREET  
LONDON, W 1

MAKERS OF INFANT DIET MATERIALS

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., SEPTEMBER, 1924

No. 9

## EDITORIAL

### THE REPORTS.

On other pages in this issue will be found the Constitution and By-laws of the Kentucky State Medical Association as adopted in 1902 at Paducah, with all the amendments that have been made since. Members of the House of Delegates are especially urged to familiarize themselves with it, but it will be found interesting reading by everyone who receives the JOURNAL.

It is especially important that the reports of officers and particularly the financial report of the Secretary and Treasurer, as audited, be studied in detail by every member of the Association. From time to time there has been some criticism after the meetings of financial items. Criticism then is largely futile. The officers of the Association can expend no money except with the approval of the House of Delegates and the time to consider expenditures is before and during the meeting. In the Auditor's report there will be found an exactly itemized statement of every penny expended. The House of Delegates may discontinue any activity of the Association and stop any expenditure of which they disapprove. In the same way, they may inaugurate any activity they may consider of benefit to the profession and people of the State. It will be noted that the expenditures are exceeding the income and that our reserve is being rapidly reduced. This will warrant the active study of the splendid business men who constitute the House of Delegates. The Kentucky State Medical Association is the most democratic organization in the world and, of course, is successful only in proportion as it expresses the will of the members.

It is suggested that every local society, interested in any particular activity which the Association has undertaken or should consider, will talk the matter over fully with their delegate to the end that their views may be presented to the House of Delegates.

Ample time has been arranged for the meetings of the House. Reference Committees will be appointed by President Cowan for the consideration of practically every phase of professional activity.

### THE PROGRAM.

The preliminary program of the Louisville meeting is published under the heading of Official Announcements.

The reading of this program will indicate that it has been so arranged as to offer to the profession the best week's post-graduate course that has ever been offered to the medical profession of any state. It was prepared and the essayists were selected by Drs. Louis Frank and J. R. Cowan, the president-elect, the members of the Committee on Scientific Work. It is to be especially noted that the Committee has changed our time-honored custom of a three-day program by making it a full week of work. The House of Delegates meets on Monday and the scientific sessions carry through Tuesday, Wednesday and Thursday. For Friday and Saturday, extensive post-graduate clinics have been arranged at the University of Louisville and City Hospital, and it is important that the members note this change so they will arrange to be in Louisville, as far as practicable, throughout the entire time. The Committee is especially anxious that the members come prepared to discuss the various subjects which will be very briefly presented by the essayists. Practically all of the papers are already in the hands of the Secretary and all of the essayists will be present.

The Council has provided for three distinguished guests. Dr. Alfred Stengel, of Philadelphia, is probably the greatest teacher of clinical internal medicine in the world. He will deliver an address on Friday morning at the City Hospital. No practicing physician in the State can afford to miss these papers. Dr. Stuart McGuire, the dis-



tinguished surgeon of Richmond, Virginia, will deliver an address on the "Treatment of Duodenal Ulcer" on Tuesday morning. Doctor McGuire is one of the most versatile surgeons in America. Following in the footsteps of his father, who was the distinguished Surgeon General of the Confederacy, he has made his hospital in Richmond one of the famous surgical clinics of the world. Doctor McGuire is returning from Europe especially to deliver this address to the profession of Kentucky.

The Public Address will be delivered at Macauley's Theater on Wednesday evening by Dr. Will D. Haggard, of Nashville, president-elect of the American Medical Association. Doctor Haggard needs no introduction to his friends, who are the medical profession of Kentucky. Sauve, eloquent, forceful, a real student of the problems of medicine and public health, he is one of the outstanding medical statesmen of America and the message he will deliver will be one that will live in the minds of his hearers for a lifetime.

The Oration in Surgery will be delivered by Dr. Wallace Frank, of Louisville. This is the only statement that is necessary to assure the attendance upon that session of every physician who can be present.

The Oration in Medicine will be delivered by Dr. E. R. Palmer, of Louisville. More than half the profession of the State were students of Dr. Palmer's father and they will find in the piquant and interesting delivery of the son a reminder of probably the most attractive orator who has ever fascinated the medical profession anywhere.

The Committee has been fortunate in drafting into service the largest number of members of the profession outside of Louisville that has ever before appeared on the program in the city. Each essayist is an authority on the subject upon which he has written.

The clinics at the City Hospital Friday and Saturday are an innovation. They will be arranged by a Committee consisting of Drs. Moore and Hagan, the resident heads of the departments of medicine and surgery, respectively. They will cover all the phases of modern diagnosis and treatment. The several interesting clinics of the University of Louisville and the City Hospital will, also, be in operation, and these clinics are especially emphasized. This method of attracting

the interest of the profession has been in vogue in some of the larger societies in the central west for several years. Doctor Frank and others, who have attended their meetings, feel sure that this innovation will be enthusiastically supported by the profession.

The Eye, Ear, Nose and Throat Section will hold a special meeting on Monday at the Seelbach. This Section has so developed in practical interest that for the past three years it has attracted the attendance of practically every member of the profession in the State who limits his work to specialties. The program this year is of special interest and it will be noted that the Committee has so arranged the program that a number of subjects in which the members of this Section are especially interested will be carried throughout the meeting. Noteworthy clinics in these specialties will, also, be arranged for Friday and Saturday.

For the past three years there has been increasing interest in the organization of the Woman's Auxiliary of the Kentucky State Medical Association. Those who were present last year will remember the inspiring meeting of the mothers, wives and daughters of physicians at Crab Orchard Springs under the presidency of Mrs. Graham Lawrence, of Shelbyville. This organization has been actively functioning throughout the year. In many county societies the ladies connected with the profession have had basket dinners and have in other ways contributed to the success of the year's program. Special entertainment features will be arranged for the ladies in Louisville and it is hoped that at least fifty per cent of those in attendance will be members or potential members of this organization.

The entertainment features will be as attractive as usual in the metropolis of the State. The Jefferson County Medical Society will be the hosts of a theater party at Macauley's on Wednesday evening. The whole theater has been taken for this entertainment and an extraordinary performance will follow Doctor Haggard's address. On Thursday evening a delightful entertainment for the members and their wives has been arranged at the Elk's Club. The Golf tournament will attract many members. Special entertainments for the ladies are being arranged.

This Seventy-fourth Annual Session of the Kentucky State Medical Association promises to be the most interesting in every way that it has ever held. The intrinsic merit of the program will make it worth the while of every medical man in Kentucky to be present.

## AT OUR HEADQUARTERS.

The Brown Hotel has been selected as headquarters for the meeting of the Kentucky Medical Association and elaborate preparations are being made to insure this meeting as the most successful ever held by the Association. The beautiful new hotel has been given over completely for the use of the meeting, and those in attendance are assured every comfort and convenience.



BALL ROOM BROWN HOTEL, MEETING PLACE OF THE SCIENTIFIC SESSION

Sessions will be held in the main ball room which is itself a real attraction. The lighting effects are usually beautiful and the acoustics of the room are excellent. Although this hotel has been opened less than one year, it has been the scene of many important political and civic events as well as of brilliant social affairs that have carried Kentuckians back to the days of the old Galt House when that hotel was the center of the social and commercial life of the entire South and West.

The Brown Hotel is fifteen stories high, located on the corner of Fourth avenue and Broadway, just far enough away from the congested section to give it a beautiful setting, and yet near enough to make it the very center of the city's activities. Every room is supplied with private bath and in addition has circulating ice water, ready at all times for the convenience of guests.

The lobby is located on the second floor and this fact has already made it the most attractive public spot in Louisville. Being above the street floor, it does not attract loafers who only occupy the space intended for guests, but is used freely by men and women guests who enjoy its beauty and comfort. On the same floor are the two dining rooms; one the beautifully illuminated crystal dining room, and the other the quiet and attractive English Grill Room. In addition to these dining rooms, there is an attractive and



LOBBY BROWN HOTEL

convenient coffee shop, where everything desirable is served at popular prices. So that the guests at the fall session will not have to leave the hotel to secure any kind of accommodations required.

The management of the Brown has co-operated fully with the Association to insure the success of this meeting and it is believed that the attendance and interest will surpass any other gathering, at least for many years. The hotel is large enough to take care of all the out-of-town guests of the Association and while a great many reservations have already been made, it is important that those coming should notify the Brown Hotel as soon as possible in order that there may be no confusion or delay at the time of arrivals.



COMMERCIAL EXHIBIT HALL ROOM BROWN HOTEL



### TO GOLFERS.

Members of the State Medical Association, who play golf, will be interested in the announcement that Dr. W. Barnett Owen, of Louisville, will be chairman of the contest for the Estill Cup.

Those who desire to enter, should communicate with Dr. Owen at the Francis Building, Louisville, arranging to play either Sunday or Monday before the meeting.

---

### A NEW HOSPITAL

In this issue of the JOURNAL there is an advertisement of the new Kentucky Baptist Hospital. The management of this institution extends a cordial invitation to the members of the Kentucky Medical Association to visit their hospital which is rapidly nearing completion.

The hospital is located on Barrett avenue and DeBarr street. Special arrangements have been made to conduct the members through the building and a delightful bouffet lunch will be served. The day and hour will be announced at the general session.

---

### MIND AND MEDICINE.

We have just had the privilege of reading the address at the opening session of the College of Physicians and Surgeons of Columbia University in September, 1923, under the above title, by Dr. Thomas W. Salmon.

Doctor Salmon quotes President Vincent, "that today the practitioner, although thoroughly imbued with scientific spirit and familiar, through first-hand knowledge, with the scientific methods by which the information that he uses in his daily work has been acquired, nevertheless, still practices an art. He must add his own personal experiences and his own independent observations to the accumulated knowledge of anatomy, physiology, pharmacology, biochemistry, pathology and bacteriology to which he has fallen heir. In the end, not only the amount of practical service that scientific medicine can render but the extent of the public support that medical institutions will receive, depend upon the wisdom, skill and breadth of view with which the individual practitioner practices his art."

Doctor Salmon emphasizes this by the attitude of medicine toward insanity. Unfortunately, his statement is true that "even the names and chief characteristics of the most common forms of mental diseases are less well known to many well-educated physicians than are those of rare tropical diseases." Dr. Will J. Mayo said not long ago, "Neurasthe-

nia, psychasthenia, hysteria and allied neuroses are the causes of more human misery than tuberculosis or cancer."

After calling attention to the well-known historic fact that practically all of our institutions for the mentally diseased were established through the activity of the medical profession, Doctor Salmon deplors the fact that following their establishment, many of these institutions became the playthings of party politics and were neglected and forgotten by the medical organization which had given them birth. He is grateful that the lessons of the World War, which taught so many things, because of the colossal figures involved, has again awakened the interest of the whole profession on the subject of mental health.

It is a pleasure to have read this address by one of the leaders in the modern study of mental diseases and the JOURNAL commends its thoughtful study to every member of the profession.

---

### SCIENTIFIC EDITORIAL

---

#### PEDIATRIC SECTION OF THE AMERICAN MEDICAL ASSOCIATION.

The recent meeting of the A. M. A. was the largest in the history of that organization. The physicians all over the country from everywhere gathered together to hear all the new things that have been thought out or proven by experiment. More than 7,000 crowded the hotels and the meeting places on the Municipal Pier. It is getting too big. It is impossible to get within hearing of many of the men who are reading papers, and to make it worse the majority of the speakers spoke in such a low monotone or enunciated so badly that much of what they said was not caught by the audience. It required a fine voice to be heard in the large halls and amidst the confusion that attends all such meetings. However, the arrangements in every way were as perfect as could be asked. The trouble is the enormous crowds which throng every meeting.

The Pediatric section was especially honored and fortunate in having two distinguished foreigners take part in the meeting. Prof. Heinrich Finklestein of Berlin has done epochal work in the study of infant feeding and has revolutionized our ideas about intestinal infections. He made several addresses; one was on "Habitual Hyperthermia During Recovery from Scarlet Fever." He referred to fevers coming on several weeks after the original disease was

well. He advocated Adrenalin hypodermically as being a specific.

Dr. Leonard Findlay, of Glasgow, who has made wonderful studies in Rickets, Syphilis, Tuberculosis in children, gave a magnificent paper on Rickets.

The most live subjects before the association were the papers on the toxin antitoxin prevention of Diphtheria, and the new Dick method of diagnosis of Scarlet Fever and the possibility of securing a toxin antitoxin combination for Scarlet Fever which indeed could be combined with that for Diphtheria and thus by one injection effect an immunity to both diseases. It is hoped that by the late fall such an effective combination would be on the market. Such an achievement means much to those who are deeply interested in the welfare of the child and to the health organizations which up to now have been handicapped in the prevention of these dreadful scourges.

There were a number of papers of the greatest value but which can be thoroughly studied when they appear in the JOURNAL. Only one criticism can be offered of the whole meeting and that is that there was so little discussion of the papers and these were largely inaudible. The immense number of visitors at any meeting tends to make such meetings rather perfunctory.

P. F. BARBOUR.

### NEWS ITEMS

Dr. W. C. Bryant died January 17 at Norton Infirmary, Louisville, from a complication of chronic troubles.

Dr. Perry K. Walker, Owensboro, aged 56, died May 26, from apoplexy.

Christian County Medical Society has elected Dr. R. L. Woodard, President; Dr. J. G. Gaither, Vice-President; Dr. W. S. Sandbach, re-elected Secretary-Treasurer.

Pendleton County Medical Society has elected Dr. H. C. Clark, President; Dr. C. H. Kendall, Vice-President; Dr. B. N. Comer, Secretary-Treasurer.

Dr. Edward Alcorn, Hustonville, 80, died March 28, from senility.

The United States Public Health Service in a recent news letter on the service of United States Marine Hospitals report that the per diem cost per patient in 1923 was \$4.08. This amount includes all salaries of surgeons, regular and special nurses, and other personnel, food for patients and attendants, light, heat and power, repairs to buildings, and some items not included by private hospitals in their cost reckoning.

### OFFICIAL ANNOUNCEMENTS

#### PRELIMINARY PROGRAM KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 22-25, 1924

Medical: (address) Paper, Alfred Stengel, M. D., Philadelphia.

Surgical: (address) Paper, Stuart McGuire, M. D., Richmond.

Intracranial Hemorrhage of the New Born: J. H. Pritchett, M. D., Louisville, Discussion led by Jas. Bruce, M. D., Louisville.

Purpura Hemorrhagica: Morris Flexner, M. D., Louisville. Discussion led by Julian Estill, M. D., Lexington; J. L. Toll, M. D., Lawrenceburg; Virgil G. Kinnaid, M. D., Lancaster.

Blood Transfusion, Various Methods and Results: R. L. Woodard, M. D., Hopkinsville.

Blood Transfusion, Its Indications: C. C. Howard, M. D., Glasgow.

Blood Stream Infections, Laboratory Viewpoint: Leon K. Baldauf, M. D., Louisville.

Mercurio-chrome in Blood Stream and other Infections: V. E. Simpson, M. D., Louisville. Discussion led by Hugh Prather, M. D., Hickman; Wilgus Bach, M. D., Jackson; Geo. W. Purdy, M. D., New Liberty; J. A. Flexner, M. D., Louisville.

Fractures: Action of Muscle Groups in Production of Displacement of Fragments: J. G. Sherrill, M. D., Louisville.

Open Method of Treatment of Fractures: Horace Rivers, M. D., Paducah.

Treatment of Fractures of and about Joints: C. A. Vance, M. D., Lexington.

Treatment of Hip Fractures: J. M. Salmon, M. D., Ashland. Discussion led by W. B. Owen, M. D., Louisville; J. G. Gaither, M. D., Hopkinsville; Jno. H. Blackburn, M. D., Bowling Green; I. A. Arnold, M. D., Louisville; O. W. Rash, M. D., Owensboro; W. Z. Jackson, M. D., Paducah.

Chronic Osteo Myelitis and Tuberculous Fistula Treated by the Injection Method: B. A. Washburn, M. D., Paducah.

Gall Bladder Shadows: Chas. D. Enfield, M. D., Louisville. Discussion led by J. B. Mason, M. D., London.

The Diagnosis of Gall Bladder Infection and its Differentiation from Gastric and Duodenal Ulcer: Fred Rankin, M. D., Lexington.

The Treatment of Gall Bladder Infections. Is There a Medical Treatment?: D. C.



Donan, M. D., Morganfield. Discussion led by Geo. A. Hendon, M. D., Louisville; Ernest Bradley, M. D., Lexington; B. F. Robinson, M. D., Berea; F. M. Travis, M. D., Benton.

The Early Recognition of Goitre and the Dangers of Procrastination in Treatment: J. L. Pythian, M. D., Newport. Discussion led by Jno. R. Wathen, M. D., Louisville; Floyd K. Foley, M. D., Central City; B. W. Smock, M. D., Greenville; R. Hayes Davis, M. D., Louisville.

Local Anesthesia: Jno. W. C. Stevenson, M. D., Ashland. Discussion led by B. F. Zimmerman, M. D., Louisville; W. I. Hume, M. D., Louisville.

Breast Tumors — Benign and Malignant: Jno. D. Jackson, M. D., Danville. Discussion led by Jno. E. Kincheloe, M. D., Hardinsburg; Irvin Abell, M. D., Louisville; J. G. Carpenter, M. D., Stanford.

Indications and Methods of Inducing Abortion and Premature Labor: Jas. T. Dixon, M. D., Owensboro.

The Abuse of Forceps and other Methods of Hastening Delivery: S. D. Breckinridge, M. D., Lexington.

Treatment of Eclampsia and Pre-Eclamptic Toxemia: Henry Rubel, M. D., Louisville.

Present Status of Pituitary Extract in Obstetrics: Walker B. Gossett, M. D., Louisville. Discussion led by Gavin Fulton, M. D., Louisville; Edw. Speidel, M. D., Louisville; E. A. Stevens, M. D., Mayfield; Geo. J. Hermann, M. D., Newport; T. A. Frazer, M. D., Marion.

Pyelitis, Its Recognition: Vernon Blythe, M. D., Paducah. Discussion led by Carl Wheeler, M. D., Lexington.

Renal Infections in Pregnancy: Geo. H. Day, M. D., Louisville. Discussion led by L. C. Redmon, M. D., Lexington; Owsley Grant, M. D., Louisville; Claude Hoffman, M. D., Louisville.

Paper (Skin Diseases) Illustrated: Wm. J. Young, M. D., Louisville.

### NEWS ITEMS

Dr. F. M. Stites announces the opening of his office at Suite 666 Francis Building, Louisville, Ky. General Medicine, Special Attention to Gastro Enterology.

Dr. John W. Scott, Dr. John Harvey announce their association in practice limited to internal medicine. 164 Market Street, Lexington, Ky.

Dr. H. B. Scott announces the opening of offices in the Starks Building, Suite 811-813, for treatment of nervous and mental diseases, consultation.

### PROGRAM OF THE EYE AND EAR SECTION KENTUCKY STATE MEDICAL ASSOCIATION.

The Eye and Ear Section of the Kentucky State Medical Association will convene in the Leather Room of the Seelbach Hotel on Monday morning, September 22d, at 9:30 A. M. promptly.

The following program will be observed:

Call to order by the President, Dr. W. B. McClure.

Reading of the minutes of the last meeting.

Business session with election of officers.

Scientific program.

Case Report. Intra-ocular Melanosarcoma, Robert Walter Bledsoe, Covington.

Case Report. Tendon Transplantation of Eye Muscles: J. H. Hester, Louisville.

Sinus Thrombosis: Report of Case, C. T. Wolfe, Louisville.

The Use of Milk Subcutaneously in Eye Infections, R. H. Cowley, Berea.

Trachoma, L. P. Molloy, Paducah.

Tonsillectomy Under Local Anaesthesia: Octavius Dulaney, Louisville.

We wish to get through the program in the morning leaving the afternoon for diversion.

In the evening the section will assemble for the annual banquet at which time we will have the paper of our guest. This year we are exceedingly fortunate in having with us Dr. Phinzy Calhoun at Atlanta, who will discuss some Contra Indications for Cataract Extraction with the Report of a Fatality.

The Secretary expresses the hope that the men who attend the section will be sure to remain over for the rest of the meeting.

Attention of prospective members of the section is called to the following rule: Your name endorsed by two members of the section must be sent in to the Secretary thirty days in advance of the meeting if you expect to have your name acted upon at this meeting. Prompt attention to this matter will greatly facilitate the work of the section.

G. C. HALL,

Secretary.

### PROGRAM FOR SURGICAL SECTION

On Monday, September 22, at 8 P.M., there will be papers read by G. S. Hanes, Louisville and W. D. Haggard, Nashville.

## OFFICIAL CALL.

The Seventy-Fourth Annual Meeting of the Kentucky State Medical Association to be held at the Brown Hotel, Louisville, Kentucky, September 22, 23, 24 and 25, 1924.

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association.

The Seventy-Fourth Annual Meeting of the Kentucky State Medical Association will convene in the Auditorium of the Brown Hotel, Louisville, on Monday, Tuesday, Wednesday and Thursday, September 22, 23, 24 and 25, 1924.

## THE HOUSE OF DELEGATES

The House of Delegates of the Kentucky State Medical Association will convene at the Brown Hotel, at 2 p. m., on Monday, September 22, 1924.

## FIRST GENERAL SESSION

The First General Session, which constitutes the opening exercises of the scientific functions of the Association will be held in the auditorium of the Brown Hotel, at 9 a. m., Tuesday, September 23, 1924.

## THE COUNCIL

The Council will convene at the Brown Hotel, Monday, September 22, 1924, at 10:30 a. m.

## THE REGISTRATION DEPARTMENT

The Registration Department will be opened in the Brown Hotel from 10 a. m. to 6 p. m., on Monday, September 22, 1924; from 8 a. m. to 12 noon on Tuesday, Wednesday and Thursday, September 23, 24 and 25.

FRANK BOYD, M. D.,  
President.

A. T. McCORMACK,  
Secretary.

## COUNCILOR DISTRICTS

## FIRST DISTRICT

V. A. STILLEY, BENTON, COUNCILOR.

Ballard	Fulton	McCracken
Caldwell	Graves	Marshall
Calloway	Hickman	Trigg
Carlisle	Livingston	Lyon

## SECOND DISTRICT

D. M. GRIFFITH, OWENSEBORO, COUNCILOR

Breckenridge	Henderson	Ohio
Crittenden	Hopkins	Union
Daviess	McLean	Webster
Hancock	Huhlenberg	

## THIRD DISTRICT

J. H. BLACKBURN, BOWLING GREEN, COUNCILOR.

Allen	Cumberland	Metcalfe
Barren	Hart	Warren-Edmonson
Butler	Logan	Simpson
Christian	Monroe	Todd

## FOURTH DISTRICT

C. Z. AUD, CECELIA, COUNCILOR.

Bullitt	Henry	Shelby
Grayson	Larue	Oldham
Hardin	Meade	Nelson

## FIFTH DISTRICT

C. G. HOFFMAN, LOUISVILLE, COUNCILOR.

Anderson	Franklin	Owen
Boone	Gallatin	Spencer
Carroll	Jefferson	Trimble

## SIXTH DISTRICT

R. C. MCCORD, LEBANON, COUNCILOR

Adair	Marion	Taylor
Boyle	Mercer	Washington
Green		

## SEVENTH DISTRICT

V. G. KINNAIRD, LANCASTER, COUNCILOR

Casey	Lincoln	Russell
Clinton	Pulaski	Wayne
Garrard	Rockcastle	McCreary

## EIGHTH DISTRICT

F. A. STINE, NEWPORT, COUNCILOR.

Bourbon	Harrison	Pendleton
Bracken	Jessamine	Robertson
Campbell-Kenton	Mason	Scott
Fleming	Nicholas	Woodford
Grant		

## NINTH DISTRICT

A. T. BRYSON, ASHLAND, COUNCILOR.

Boyd	Greeneup	Magoffin
Carter	Johnson	Pike
Elliott	Lewis	Martin
Floyd	Lawrence	

## TENTH DISTRICT

R. J. ESTILL, LEXINGTON, COUNCILOR.

Bath	Lee	Owsley
Breathitt	Letcher	Perry
Clark	Madison	Powell
Estill	Menifee	Rowan
Fayette	Montgomery	Wolfe
Knott	Morgan	

## ELEVENTH DISTRICT

W. M. MARTIN, HARLAN, COUNCILOR.

Bell	Jackson	Leslie
Clay	Knox	Whitley
Harlan	Laurel	

**Rheumatic Carditis.** — Raven asserts that it would be in the end an economy of time and money as well as of health if every child who had shown any manifestation of rheumatic disease were sent to the country for a long term of rest or quiet life, just as tuberculous cases are sent away. The fact that in some cases the child does not feel ill at all until the heart has suffered irretrievable damage points to the absolute need for constant supervision of the heart in the early stages of the disease, and such constant supervision can not be carried on effectively under the general conditions obtaining at present; similarly, the carrying out of adequate after-care in cases discharged from the hospitals is at present exceedingly difficult to manage. Early and prolonged treatment and regular and prolonged after-care are the most important requirements in the management of acute rheumatism today.



CONSTITUTION AND BY-LAWS OF THE  
KENTUCKY STATE MEDICAL AS-  
SOCIATION ADOPTED AT PA-  
DUCAH IN 1902 AS  
AMENDED

CONSTITUTION.

ARTICLE I.—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II.—PURPOSE OF THE ASSOCIATION

The purpose of the Association shall be to federate and bring into compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interest and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2.—MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3.—DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4.—GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privileges of participating in all of the scientific work of that session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association,

and shall consist of (1) Delegate elected by the component county societies, and (2) *ex-officio*, the officers of the Association as defined in Article VIII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The Officers of The Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publication. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Session for publication and for

such other purposes as will promote the welfare of the Association and profession.

#### ARTICLE X.—REFERENDUM

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question and be binding upon the House of Delegates.

#### ARTICLE XI.—THE SEAL

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

#### ARTICLE XII.—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

### BY-LAWS

#### CHAPTER I.—MEMBERSHIP

Section 1.—All members of the Component County Societies shall be privileged to attend all meetings and take part in all the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Association. PROVIDED, that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge:

I hereby promise upon my honor as a gentleman that I will not so long as I am a member of the Kentucky State Medical Association practice division of fees in any form; neither by collecting fees from others referring patients to me nor by permitting them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me nor will I utilize any man as an assistant as a subterfuge for this purpose.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society

which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Section 3. No person who is under sentence or suspension or expulsion from any component society of this Association or whose name has been dropped from its roll of members shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by receiving a badge which shall be evidence of his reference to the roster of the society, he shall have right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

#### CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

#### CHAPTER III.—GENERAL MEETING

Section 1. The General Meeting shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations and the entire time of the Sessions as far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed



from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

#### CHAPTER IV.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the Meeting held for the address of the President and the annual orations and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with the duties. But if the business interests of the Association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate. In case the regularly elected delegate and alternate is unable to attend the annual meeting of the Association, the President of the county society may in writing appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping stone to further ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health

legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have the authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the Annual Sessions of the Association, and members of the chartered county societies and none other shall be members from the presidents of such district societies in such district societies. When so organized from the presidents of such district societies shall be chosen the Vice-Presidents of this Association and the Presidents of the county

societies of the district shall be the vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committee may report to the House of Delegates in person, and may participate in the debate therein.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14.—It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the JOURNAL.

#### CHAPTER V.—ELECTION OF OFFICERS

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees, the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

#### CHAPTER VI.—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury, only on written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of funds in his hands.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the program for and attend all meetings of the Association and of the House of Delegates and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Association, except such as properly belonging to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meeting, officers of their election, and committees of their appointment and duties. He shall act as secretary of the Committee on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties



which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

#### CHAPTER VII.—COUNCIL

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary and it shall keep a permanent record of its proceedings. It shall through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the account of the Secretary and Treasurer and other agents of this Association and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association, or under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the next annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expenses in attending the annual session of the Association.

Sec. 3. Collectively the Council shall be the board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates of the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline effecting the conduct of members or

of a county society upon which appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memorials of the Association and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the Association, and all money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers read before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual session shall be within the control and direction of the Council.

#### CHAPTER VIII.—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Publication, Policy and Legislation.

A Committee on Medical Education.

A Medio-Legal Committee.

Other committees on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare

and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and the enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with the profession and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates and of their respective committee, and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and Treasurer shall be the other two members *ex officio*. This committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

#### CHAPTER IX.—ASSESSMENTS AND EXPENDITURES

Section 1. The assessment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-official physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessment, or make the report required, on or before the first day of April in each year, shall be held as suspended, and none of its members, or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

#### CHAPTER X.—RULES OF CONDUCT

The principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

#### CHAPTER XI.—RULES OF ORDER

The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

#### CHAPTER XII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concession shall be made with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to



the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every reputable and legally registered physician who is practicing, or who will agree to practice non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority vote, may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in the State, his name, upon request shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living in or near a county line may hold membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time for the annual election of officers each county society shall elect

a delegate or delegates to represent it in the House of Delegates of this Association in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the Annual session.

Sec. 13. The Secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the KENTUCKY MEDICAL JOURNAL full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

#### CHAPTER XIII.—AMENDMENTS

These By-Laws may be amended by any annual session by a two-thirds vote of all the delegates present at that session, after the amendment has been laid on the table for one day.

**Traumatic Neurasthenia an Anxiety Neurosis.**—Buzzard holds to the view that the signs and symptoms of traumatic neurasthenia are those of an anxiety neurosis, complicated by certain factors, and that it should be regarded as an emotional state, dependent not on any physical disturbance caused by trauma but on a number of psychologic factors. Although the knowledge that an injury has been sustained exerts a powerful influence in the development of neurasthenia, the latter is not the result of trauma. Buzzard prefers the term "anxiety neurosis following trauma." He urges the importance of early diagnosis and proper treatment.

# AUDITOR'S REPORT.

To the Council of the Kentucky State Medical Associations

GENTLEMEN:

At your request, I have this date made a complete audit of the books and accounts of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. W. B. McClure, for the period of September 1st, 1923, to September 1st, 1924. I find the records well kept and in perfect balance. Having checked every item in detail, I find all receipts credited to the proper accounts and every item of disbursements charged to the proper account. The exhibits herewith submitted set forth in detail and aggregate every financial transaction for the period covered:

Reconciliation of the Treasurer's account for period September, 1923 to September, 1924, viz:

Balance on hand at last report	....\$3,951.98	
Less Vouchers then outstanding	.... 2,182.35	
Balance agreeing with Secretary's last report	.....	\$ 1,769 63
Amount received from Secretary for period	..... 15,563.06	
Amount in hands of Secretary date of audit	..... 619.58	
		16,182.64
Loan from Second National Bank, Lexington, Kentucky	.....	2,000.00
Total	.....	\$19,952.27

## DISBURSEMENTS

Vouchers No. 1 to 134.....	18,284.60	
Balance September 1, 1924..	\$ 1,667.67	
Reconciliation		
Balance in Second National Bank Lexington, Ky., Treasurer Account	.....\$3,065.85	
Balance in National Bank of Ky., Louisville, Ky., Secretary account	..... 619.58	3,685.43
Vouchers Outstanding, viz:		
No 84, June 6, 1921, A. P. Hunt..	1.00	
No. 111, January 3, 1922, Dr. V. A. Stille	6.50	
No. 99, March 31, 1924, Clarence Neighbor, P. M.	50.00	
No. 113, June 30, 1924, State Board of Health	100.00	
No. 117, June 30, 1924, Louis Vissmau	30.85	
No. 121, June 30, 1924, Mrs. E. B. Kreiger	24.00	
No. 122, July 30, 1924, Dr. A. T. McCormack	150.00	
No. 123, July 30, 1924, Dr. L. H. South	100.00	
No. 124, July 30, 1924, Elva Grant	75.00	
No. 125, July 30, 1924, State Board of Health	100.00	
No. 126, July 30, 1924, Times-Journal Publishing Co.....	342.91	
No. 127, July 30, 1924, Times-Journal Publishing Co.....	2.50	
No. 128, July 30, 1924, Electric Blue Print Co.....	10.00	
No. 129, July 30, 1924, Allen B. Kincheloe	200.00	
No. 130, July 30, 1924, John P. Haswell	250.00	
No. 131-A, July 30, 1924, Fred Forcht, Attorney	150.00	
No. 131, August 30, 1924, Dr. A. T. McCormack	150.00	
No. 132, August 30, 1924, Dr. Lillian South	100.00	

No. 133, August 30, 1924, Elva Grant	75.00	
No 134, August 30, 1924, State Board of Health	100.00	
Total Vouchers Outstanding	....	\$ 2,017.76

Balance agreeing with Secretary ..... \$ 1,667.67  
Vouchers No. 131, 132, 133, 134, are in the hands of the Secretary to be delivered.

## STATEMENT OF ASSETS

Balance in Second National Bank, Lexington, Ky., to the credit of W. B. McClure, Treasurer...	\$3,065.85	
Balance in National Bank of Ky., to credit of Kentucky Medical Journal	479.58	
Balance in National Bank of Ky., to credit of the Kentucky State Medical Association	140.00	
Total cash	3,685.43	
Less Vouchers outstanding	2,017.76	
Net cash balance Sept. 1, 1924		\$ 1,667.67
Liberty Bonds in hands of Treasurer, face value		3,000.00
Office Furniture, etc (see Exhibit "C")		711.94
Total		\$ 5,379.61

Respectively submitted,

B. P. EUBANK, Auditor.

July 29, 1924.

## EXHIBIT "A"

### RECEIPTS

Dues from County Societies	.....\$ 9,039.00	
Income of Journal (exclusive of investments), etc.	1,016.14	\$16,055 14
Loan from Second National Bank, Lexington, Kentucky		2,000.00
Interest on Investments, viz:		
Interest on Liberty Bond No. 1	42.50	
Interest on Liberty Bond No. 2	85.00	127.50
Total Receipts		\$18,182.64
Balance on hand September 1, 1923,		1,769.63
Total		\$19,952.27

### DISBURSEMENTS

STATE MEDICAL ASSOCIATION:		
President Sundries	\$ 30.00	
Secretary's Salary	1,800.00	
Secretary's Stenographer	900 00	
Secretary's Sundries	107.20	
Secretary's Stamps and Envelopes...	131.52	
Treasurer's office expense and bond..	12.50	
Treasurer's Sundries	37.50	
Officers, Councilors and Committee expenses	443.47	
Practice-Act, Medical Enforcement..	1,500.00	
Attorney's Fees, Medico-Legal Committee	3,080.55	
Costs and Expenses	198.50	
Payment of Loan from Second National Bank, Lexington, Ky.,	2,000.00	
Association Sundries	129.49	
Expenses Crab Orchard Meeting	918.35	
Expenses Louisville Meeting	10.00	
Total State Medical Association		\$11,299.08
KENTUCKY MEDICAL JOURNAL:		
Business Manager's Salary	1,200.00	
Business Manager's Sundries	31.31	
Printing Journal	1,817.90	
Journal Postage	150.00	
Journal Advertising Commissions...	232.25	
Journal Sundries	554 06	
Total Journal		\$ 6,985.52
Grand Total		\$18,284.60
Balance on hand this date....		1,667.67
Total		\$19,952.27



EXHIBIT "B"

Detailed list of receipts from County Societies from September, 1923, to September 1, 1924, compared with incomes of same period last year.

	1923	1924
Adair .....	\$ 45.00	\$ 35.00
Allen .....	55.00	55.00
Anderson .....	50.00	50.00
Ballard .....	65.00	70.00
Barren .....	99.00	90.00
Bath .....	45.00	35.00
Bell .....	180.00	175.00
Boone .....	15.00	15.00
Bourbon .....	103.00	90.00
Boyd .....	215.00	220.00
Boyle .....	59.00	60.00
Bracken .....	35.00	40.00
Breathitt .....	49.00	55.00
Breckenridge .....	80.00	70.00
Bullitt .....	44.00	20.00
Butler .....	35.00	20.00
Caldwell .....	55.00	45.00
Calloway .....	85.00	75.00
Campbell-Kenton .....	569.00	505.00
Carlisle .....	50.00	50.00
Carroll .....	35.00	40.00
Carter .....	85.00	65.00
Casey .....	20.00	40.00
Christian .....	169.00	160.00
Clark .....	100.00	105.00
Clay .....	30.00	40.00
Clinton .....	15.00	10 00
Crittenden .....	40.00	35.00
Cumberland .....	35.00	30.00
Daviess .....	258.00	215.00
Elliott .....	4.00	
Estill .....	35.00	15.00
Fayette .....	429.00	430.00
Fleming .....	75.00	70.00
Floyd .....	43.00	25.00
Franklin .....	94.00	105.00
Gallatin .....	25.00	20 00
Fulton .....	75.00	35.00
Grant .....	30.00	55.00
Garrard .....	40.00	35.00
Graves .....	153.00	130.00
Grayson .....	60.00	65.00
Green .....	20.00	30.00
Greenup .....	30.00	20.00
Hancock .....	5.00	5.00
Hardin .....	110.00	110.00
Harlan .....	160 00	215.00
Hart .....	40.00	35.00
Harrison .....	90.00	90.00
Henderson .....	113.00	95.00
Henry .....	60.00	50.00
Hickman .....	65.00	55.00
Hopkins .....	141.00	115.00
Jackson .....	20.00	12.00
Jefferson .....	1,654.00	1,810 00
Jessamine .....	55.00	50.00
Johnson .....	40.00	70.00
Knott .....	5.00	5.00
Knox .....	80.00	55.00
Larue .....	25.00	35.00
Laurel .....	40.00	40.00
Lawrence .....	44.00	30.00
Lee .....	15.00	
Leslie .....	10.00	5.00
Letcher .....	40.00	40 00
Levis .....	30.00	30.00
Lincoln .....	80.00	95.00
Livingston .....	29.00	30.00
Logan .....	118.00	95.00
Lyon .....	25.00	25.00
McCracken .....	225.00	205.00
McCreary .....	30.00	30.00
McLean .....	20.00	20.00
Madison .....	125.00	115.00
Magoffin .....		
Marion .....	79 00	65.00
Marshall .....	69.00	95.00
Martin .....		
Mason .....	80.00	75.00
Meade .....	29.00	5.00
Menifee .....		
Mercer .....	99.00	85.00
Metcalfe .....	40.00	40.00
Monroe .....	35.00	20.00
Montgomery .....	70.00	75.00
Morgan .....	14.00	
Muhlenberg .....	130.00	60.00
Nelson .....	69.00	60 00
Nicholas .....	55.00	50.00
Ohio .....	40.00	30.00

Oldham .....	35.00	45.00
Owen .....	40.00	35.00
Owsley .....	15.00	15.00
Pendleton .....	50.00	45.00
Perry .....	143.00	190.00
Pike .....	100.00	25.00
Powell .....	20.00	20.00
Pulaski .....	90.00	75 00
Robertson .....	10.00	10.00
Rockcastle .....	43.00	30.00
Rowan .....	15.00	10.00
Russell .....	30.00	35.00
Scott .....	55.00	90.00
Shelby .....	109.00	40.00
Simpson .....	65.00	65.00
Spencer .....	10.00	5.00
Taylor .....	45.00	40.00
Todd .....	65 00	55.00
Trigg .....	35.00	15.00
Trimble .....	4.00	
Union .....	80.00	50.00
Warren .....	138.00	120.00
Washington .....	55.00	50.00
Wayne .....	34.00	34.00
Webster .....	20.00	15.00
Whitley .....	124.00	133.00
Wolfe .....		
Woodford .....	28.00	15.00
	\$9,594.00	\$9,039.00

EXHIBIT "C"

Invoice of the property of the Association, September 1, 1924.

Addressograph with 5,000 complete addressed plates with list device, etc .....	\$ 600 00
Folding Machine .....	25.00
I Remington Typewriter .....	25.00
I Desk .....	50.00
Filing Cabinet .....	64.75
Rubber Stamps .....	9.00
Guide Cards .....	5.00
1-3 Adding Machine .....	75.00
Typewriter Chair .....	9.00
1 Electric Fan .....	18.00
1 Globe Safe with Fixtures .....	130.00
1,000 No. 5 2-cent Stamped Envelopes .....	21.25
1,000 No. 7 2-cent Stamped Envelopes .....	22.50
500 No. 9 2-cent Stamped Envelopes .....	13.41
Total .....	\$1,067.91
Reduction for depreciation in machinery .....	355.97
	\$711 94

EXHIBIT "D"

Secretary's Monthly Balance Sheet, agreeing with books.

September 1. The Balance on hand	Sept. 1, 1923	\$1,769.63	
1923-1924.	Expenses	Collections	Balance
October 1 .....	\$ 2,677.08	\$ 1,420.88	\$ 513.43
October 1, Loan from Second National Bank .....		2,000.00	2,513.43
November 1 .....	2,513.66	521.90	521.67
December 1 .....	577.76	691.74	635.65
January 1 .....	941.85	849.64	543.44
February 1 .....	1,926.15	2,459.97	1,077.26
February 19 payment of Loan ... \$2,000 and Interest 30	2,030.00		
March 1 .....	1,150.54	2,299 13	195.85
April 1 .....	1,639.73	2,233.78	779.90
May 1 .....	724.20	2,497.00	2,552.70
June 1 .....	896.52	1,332.69	2,988.87
July 1 .....	1,401.70	1,266.33	2,853.50
August 1 .....	1,380.41	619.58	2,092.67
September 1 .....	425.00		1,667.67
	<u>\$18,284.60</u>	<u>\$18,182 64</u>	
Balance on hand September 1, 1923		1,769.63	
		<u>\$19,952.27</u>	
Balance on hand September 1, 1924			1,667.67
Total Expenses .....			18,284.60
			<u>\$19,952.27</u>

EXHIBIT "E"

Collections by Secretary on account of Kentucky State Medical Association, corresponding with checks, deposit slips, and receipts, filed herewith:

1923-1924	
October 1—To Collections to Date	\$ 324.00
November 1—To Collections to Date	20.00
December 1—To Collections to Date	20.00
February 1—To Collections to Date	1,790.00
March 1—To Collections to Date	1,845.00
April 1—To Collections to Date	1,670.00
May 1—To Collections to Date	2,000.00
June 1—To Collections to Date	795.00
July 1—To Collections to Date	435.00
August 1—To Collections to Date	140.00
Total for Year	\$ 9,039.00
Loans by Second National Bank	2,000.00
Grand Total	\$11,039.00

EXHIBIT "F"

Collections by Editor on account of the Journal, corresponding with cheeks, deposit slips, and receipts filed herewith.

1923-1924.	
October 1—To Collections to Date	\$ 1,096.88
November 1—To Collections to Date	501.90
December 1—To Collections to Date	671.74
January 1—To Collections to Date	849.64
February 1—To Collections to Date	669.97
March 1—To Collections to Date	454.13
April 1—To Collections to Date	553.78
May 1—To Collections to Date	497.00
June 1—To Collections to Date	537.69
July 1—To Collections to Date	703.83
August 1—To Collections to Date	479.58
Total for Year	\$ 7,016.14
Interest on Liberty Bonds	127.50
Grand Total	\$ 7,143.64

EXHIBIT "G"

Total membership by Councelor Districts and by Counties for 1923 as compared to that of 1924.

FIRST DISTRICT—V. A. STILLEY, BENTON, COUNCILOR			
	1923	1924	
Ballard	14	14	
Caldwell	11	9	
Calloway	17	14	
Carlisle	10	10	
Fulton	15	7	
Graves	29	25	
Hickman	13	11	
Livingstou	5	6	
Lyon	5	5	
Marshall	14	19	
McCracken	43	41	
Trigg	7	3	
	183	164	
SECOND DISTRICT—D. M. GRIFFITH, OWENSBORO, COUNCILOR.			
	1923	1924	
Breckinridge	16	14	
Crittenden	8	7	
Davies	50	43	
Hancock	1	1	
Henderson	17	15	
Hopkins	28	26	
McLean	4	4	
Muhlenberg	25	13	
Ohio	8	6	
Union	16	10	
Webster	4	4	
	177	143	
THIRD DISTRICT—J. H. BLACKBURN, BOWLING GREEN, COUNCILOR.			
	1923	1924	
Allen	11	11	
Barren	19	18	
Butler	7	4	

Christian	33	32
Cumberland	7	6
Hart	8	7
Logan	22	19
Metcalfe	8	8
Monroe	7	4
Simpson	13	13
Todd	13	11
Warreu-Edmonson	27	22
	175	155

FOURTH DISTRICT—C. Z. AUD, CECELIA, COUNCILOR			
	1923	1924	
Bullitt	8	4	
Grayson	12	13	
Ifardin	22	21	
Henry	11	9	
Larue	5	7	
Meade	5	1	
Nelson	13	12	
Oldham	7	9	
Shelby	21	10	
	104	86	

FIFTH DISTRICT—C. G. HOFFMAN, LOUISVILLE, COUNCILOR.			
	1923	1924	
Anderson	10	10	
Boone	5	1	
Carroll	7	8	
Franklin	18	21	
Gallatin	5	4	
Jefferson	327	341	
Owen	8	7	
Spencer	2	1	
Trimble	1	0	
	383	393	

SIXTH DISTRICT—R. C. McCHORD, LEBANON, COUNCILOR.			
	1923	1924	
Adair	9	7	
Boyle	11	9	
Green	4	6	
Marion	15	13	
Mercer	19	17	
Taylor	9	8	
Washington	11	10	
	78	70	

SEVENTH DISTRICT—V. G. KINNAIRD, LANCASTER, COUNCILOR.			
	1923	1924	
Casey	4	6	
Clinton	3	2	
Garrard	8	7	
Lincoln	16	17	
McCreary	6	6	
Pulaski	18	15	
Rockcastle	7	6	
Russell	6	7	
Wayne	6	6	
	74	72	

EIGHTH DISTRICT—F. A. STINE, NEWPORT, COUNCILOR.			
	1923	1924	
Bourbon	19	17	
Bracken	7	8	
Campbell-Keaton	97	101	
Fleming	15	14	
Graut	6	11	
Harrison	18	18	
Jessamine	11	10	
Mason	16	14	
Nicholas	11	10	
Pendleton	10	9	
Robertson	2	2	
Scott	11	16	
Woodford	4	2	
	227	232	

NINTH DISTRICT—A. T. BRYSON, ASHLAND, COUNCILOR.			
	1923	1924	
Floyd	7	5	
Boyd	43	44	
Carter	17	14	
Elliott	0	0	
Greenup	6	7	
Johnson	8	13	
Lawrence	8	6	
Lewis	6	6	
Magoffin	0	0	
Pike	20	15	
	115	110	





September 29—Voucher Check No. 15.....	\$ 14.31
MEFFERT EQUIPMENT CO.	
To 300 Ledger Cards .....	\$ 3.06
To 5M Plain White Cards.....	11.25
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 16.....	\$ 57.41
CRAB ORCHARD SPRINGS HOTEL	
To expense of Dr. South 9-15-9-21.....	\$34.00
To expense of Dr. A. T. McCormack, 9-15-9-21.....	28.00
To telegram .....	1.30
To 3 phone calls.....	3.60
To drayage, 6 boxes for Ass'n.....	10.01
To expenses of Misses Sullivan and Atkins, 9-16-9-21.....	48.00
To 2 trunks.....	2.00
To expense of Senator Beckham, 1 day, 1 meal.....	5 00
To expenses of Mr. Denhardt 9-16-9-20.....	39.00
To expense of Dr. Aud, 9-18-20.....	13.00
To expenses of Dr. F. J. Kennedy.....	73.50
Total .....	\$257.41
Less Credit for Ad for 1 year.....	200.00
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 17.....	\$ 100.00
FARMER & FARMER, Attorneys, Lexington.	
To legal services in case of Cohen vs. Nevitt.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 18.....	\$ 150.00
W. T. COLE, Attorney, Greenup	
To attorney fee in case of Lawrence Lett vs. Dr. A. S. Brady.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 19.....	\$ 24.50
DR. J. W. KINCAID, Catlettsburg.	
To expense as Councilor.....	\$ 15.80
To postage .....	3.50
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 20.....	\$ 24.00
DR. CLAUDE G. HOFFMAN, Louisville.	
To expenses as Councilor.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 21.....	\$ 10.00
DR. J. E. WELLS, Cyuthiana.	
To expenses as Councilor.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 22.....	\$ 12.75
DR. R. C. McCHORD, Lebanon.	
To expenses as Councilor.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 23 .....	\$ 15 80
DR. V. G. KINNAIRD, Lancaster.	
To expenses as Councilor.	
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 24.....	\$ 464.23
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To August issue, 2,300—92 p.....	\$530.30
To 28 changes .....	5.60
To 2,500 envelopes .....	14.25
To difference cost of setting 5,466 to 6 pt.....	10.00
Total .....	\$560.15
Less charges for setting tabulating:	
October issue.....	\$49.60
December issue.....	23.82
May issue.....	2.50
July issue .....	10 00
August issue .....	10.00
Net .....	95 92
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 25.....	\$ 547.60
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To Sept. issue, 2,500—112 p. ....	\$526.75
To envelopes .....	14.25
To printing envelopes.....	2.20
To 22 changes .....	4.40
To setting 89,419 ems to 6 pt.....	89.49
Total .....	\$637.09
Less tabulating charge.....	89.49
Net .....	\$547.60
Approved by Council and Ordered Paid by House of Delegates.	
September 29—Voucher Check No. 26.....	\$ 31.00
DR. W. B. McCURE, Lexington.	
To expense as Treasurer.	
Approved by Council and Ordered Paid by House of Delegates.	
October 2—Voucher Check No. 27.....	\$ 25.00
CLARENCE NEIGHBORS, P. M., Bowling Green.	
To postage on Journals.	
October 31—Voucher Check No. 28.....	\$ 150 00
DR. A. T. McCORMACK, Secretary, Louisville.	
To October salary.	
October 31—Voucher Check No. 29.....	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To October salary.	



October 31—Voucher Check No. 30.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville. To October salary.	
October 31—Voucher Check No. 31.....	\$ 200.00
STATE BOARD OF HEALTH OF KENTUCKY, Louisville To legal service for Medical Practice Work for October.	
October 31—Voucher Check No. 32.....	\$ 73.25
MRS. E. B. KRIEGER, Louisville. To 25% on securing ads amounting to \$293.00.	
October 31—Voucher Check No. 33.....	\$ 12.50
AMERICAN SURETY CO., of New York. To Bond No. 0455905, 10-15-23—10-15-24 for W. B. McClure, Treasurer.	
October 31—Voucher Check No. 34.....	\$ 6.80
BUSH KREBS CO, Louisville. To 2 cuts.	
October 31—Voucher Check No. 35.....	\$ 3.50
KOEHLER STAMP & STENCIL CO. To 1 signature stamp.	
October 31—Voucher Check No. 36.....	\$ 20.50
DR. W. W. RICHMOND, Clinton. To expense as Councilor.	
October 31—Voucher Check No. 37.....	\$ 77.79
DR. J. S. LOCK, Louisville To expense as Councilor.	
October 31—Voucher Check No. 38.....	\$ 19.25
DR. D. M. GRIFFITH, Owensboro. To expense as Councilor.	
October 31—Voucher Check No. 39.....	\$ 4.00
J. THOMAS CHERRY, Crab Orchard. To 16 yards black Poplin, at 25c per yard.	
October 31—Voucher Check No. 40.....	\$ 2.67
H. SHPRINTZ, Crab Orchard To black poplin for exhibits.	
October 31—Voucher Check No. 41.....	\$ 6.70
DR. GARYORD C. HALL, Secretary for Eye, Ear, Nose and Throat Section, Louisville. To binder for minutes .....\$2.70 To Stamps ..... 4.00	
October 31—Voucher Check No. 42.....	\$ 300.00
J. S. FORESTER, Attorney, Harlan. To attorney fee in case of Dr. H. K. Buttermore vs. W. D. Dozier .....\$200.00 To attorney fee in case of Brodie vs. Dr. W. W. Martin. .... 100.00	
October 31—Voucher Check No. 43.....	\$ 10.00
GRAHAM & LONGSTREET, Louisville. To depositions of Drs. Abell and Hendon on case of Dr. H. K. Buttermore.	
October 31—Voucher Check No. 44.....	\$ 100.00
W C. McCHORD, Attorney, Springfield. To balance of attorney's fee in Yates case.	
October 31—Voucher Check No. 45.....	\$ 7.90
LOUIS VISSMAN, Clerk, Louisville. To court costs in case of Wm. C. Dieruf vs. Dr. George S. Brobowiski.	
October 31—Voucher Check No. 46.....	\$ 100.00
WILKINS & SPARKS, Attorneys, Central City and Greenville. To attorney fee in case of Commonwealth of Kentucky vs. Dr. H. D. Newman.	
October 31—Voucher Check No. 47.....	\$ 449.25
TIMES-JOURNAL PUBLISHING CO., Bowling Green. To October issue, 2350—104 p.....\$445.25 To printing envelopes ..... 2.25 To 2,500 envelopes ..... 14.25 To 25 changes ..... 5.00	
Total .....\$466.75 Less 70 copies short at 25c each..... 17.50	
October 31—Voucher Check No. 48.....	\$ 27.00
TIMES-JOURNAL PUBLISHING CO., Bowling Green. To 2,000 bill heads.....\$ 6.50 To 1,000 Letterheads and 1,000 envelopes, Third District ..... 10.50 To 300 applications for space and 300 commercial exhibits ..... 10.00	
	\$27.00
October 31—Voucher Check No. 49.....	\$ 71.75
TIMES-JOURNAL PUBLISHING CO., Bowling Green. To 250 letter heads and 250 envelopes, Pres. Elect .....\$ 4.25 To 250 letter heads and 250 envelopes, Councilor First District ..... 4.25 To 100 letter heads and 100 envelopes, Councilor, Emeritus ..... 2.50 To 500 letter heads and 500 envelopes, Medico-Legal Committee ..... 6.50 To 500 letter heads and 500 envelopes, Pres..... 6.50 To 500 letter heads and 500 envelopes, Treas..... 6.50 To 500 letter heads and 500 envelopes, Councilor of Third District ..... 6.50 To 5,000 letter heads, Secretary ..... 20.00 To 250 letter heads and 250 envelopes, Councilor of Seventh District ..... 4.25 To 500 letter heads and 500 envelopes, Eye, Ear, Nose and Throat..... 6.50 To 250 envelopes, Councilor of Ninth District ..... 2.00 To 250 envelopes, Councilor of Eighth District ..... 2.00	
Total .....\$71.75	
October 31—Voucher Check No. 50—A.....	\$ 98.75
TIMES-JOURNAL PUBLISHING CO., Bowling Green. To account of Journal Printing	

October 31—Voucher Check No. 50.....	\$ 572.05
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To November issue, 2300—120 p.....	\$557.00
To 30 changes .....	6.00
To 2,500 envelopes .....	14.25
To Printing .....	2.30
Total .....	\$579.55
Less 30 copies short .....	7.50
November 30—Voucher Check No. 51.....	\$ 150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To November salary.	
November 30—Voucher Check No. 52.....	\$ 119.25
DR. L. H. SOUTH, Business Manager, Louisville.	
To November salary .....	\$100.00
To R. R. fare and sleeper, Bowling Green, Baxstons and Crab Orchard .....	15.00
To dinner .....	1.25
To supper .....	.75
To expenses—Crab Orchard to Louisville.	
Supper .....	1.25
Dinner.....	1.00
Total .....	\$119.25
November 30—Voucher Check No. 53.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To November salary.	
November 30—Voucher Check No. 54.....	\$ 200.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for November.	
November 30—Voucher Check No. 55.....	\$ 14.01
BUSH KREBS CO.	
To 4 cuts.	
November 30—Voucher Check No. 56.....	\$ 19.50
MRS. E. B. KREIGER.	
To 25% on ads amounting to \$150.00.....	\$37.50
Less 25% commission on non-collectable ad amounting to \$72.00.....	18.00
December 4—Voucher Check No. 57.....	\$ 25.00
CLARENCE NEIGHBORS, P. M., Bowling Green.	
To postage on Journals.	
December 22—Voucher Check No. 58.....	\$ 150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To December salary.	
December 22—Voucher Check No. 59.....	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To December salary.	
December 22—Voucher Check No. 60.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To December salary.	
December 22—Voucher Check No. 61.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for December.	
December 22—Voucher Check No. 62.....	\$ 100.70
LOW & BRYANT, Attorneys, Pineville.	
To attorney's fees in case Rosa vs. Dr. L. D. Hoskins.	
December 22—Voucher Check No. 63.....	\$ 391.15
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To December issue, 2300—72 p.....	\$381.20
To 22 changes .....	4.40
To 2,500 envelopes .....	14.25
To printing .....	2.30
Total .....	\$402.15
Less 11 Journa's short at 25c each.....	2.75
Less 33 errors at 25c each .....	8.25
	\$11.00
January 31—Voucher Check No. 64.....	\$ 150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To January salary.	
January 31—Voucher Check No. 65.....	\$ 112.06
DR. L. H. SOUTH, Business Manager, Louisville.	
To January salary .....	\$100.00
Dec. 14—Expenses to Lexington, R. R. Fare.....	\$6.00
Lunch .....	.75
Dinner .....	.75
	7.50
Dec. 29—Expenses to Elizabethtown, R. R. fare .....	3.06
Lunch .....	.75
Dinner .....	.75
	4.56
January 31—Voucher Check No. 66.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To January salary.	
January 31—Voucher Check No. 67.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for January.	
January 31—Voucher Check No. 68.....	\$ 150.00
FRED FORCHT, Attorney, Louisville.	
To fee for services from July 1, '23—Jan. 1, '24.	
January 31—Voucher Check No. 69.....	\$ 214.85
TALBOTT & WHITNEY, Attorneys, Paris.	
To balance due on C. G. Daugherty vs. Morrison case.	



January 31—	Voucher Check No. 70.....	\$ 100 00
	SAMPSON & SAMPSON, Attorneys, Harlan.	
	To fees in case of W. P. Cawood vs. C. L. Hancock.	
January 31—	Voucher Check No. 71.....	\$ 15.82
	BUSH-KREBS, Louisville.	
	To 4 sq. medical cuts.	
January 31—	Voucher Check No. 72.....	\$ 50.00
	CLARENCE NEIGHBORS, P. M., Bowling Green.	
	To postage on Journals.	
January 31—	Voucher Check No. 73.....	\$ 438.90
	THE MASTER REPORTING CO., Chicago, Ill.	
	To reporting Kentucky State Medical Convention at Crab Orchard.	
January 31—	Voucher Check No. 74.....	\$ 100.00
	J. S. FORESTER, Attorney, Harlan.	
	To fees in case of Dr. W. M. Martin vs. Lillie Angel.	
January 31—	Voucher Check No. 75.....	\$ 288.00
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
	To January issue 2250 copies, 66 pg.....	\$316.45
	To 25 changes.....	5 00
	To 2500 envelopes.....	14.25
	To printing envelopes.....	2.30
	Total.....	\$338.00
	Less 5 days delay at \$10.00 per day.....	50.00
January 31—	Voucher Check No. 76.....	\$ 131.52
	LUDLOW PETTY, P. M., Louisville.	
	To 6000 No. 5 2c envelopes.	
February 19—	Voucher Check No. 77.....	\$2,030.00
	SECOND NATIONAL BANK, Lexington.	
	To pay 4 months' loan.....	\$2,000.00
	To 4½% interest, 4 months.....	30.00
February 29—	Voucher Check No. 78.....	\$150.00
	DR. A. T. McCORMACK, Secretary, Louisville.	
	To February salary.	
February 29—	Voucher Check No. 79.....	\$ 100.00
	DR. L. H. SOUTH, Business Manager, Louisville.	
	To February salary.	
February 29—	Voucher Check No. 80.....	\$ 75.00
	ELVA GRANT, Bookkeeper, Louisville.	
	To February salary.	
February 29—	Voucher Check No. 81.....	\$ 100.00
	STATE BOARD OF HEALTH OF KENTUCKY.	
	To legal service for Medical Practice Work for February.	
February 29—	Voucher Check No. 82.....	\$ 103.22
	DR. Y. A. STILLEY, Councilor of First District and Chairman of Legislative Committee.	
	To 3 trips from Benton to Louisville and return including expenses, Jan 20-24, 26-29 and Feb. 12-14-24.	
February 29—	Voucher Check No. 83.....	\$ 33.85
	DR. J. P. RIFFE, Member of Legislative Committee.	
February 29—	Voucher Check No. 84.....	\$ 115.00
	E. B. ANDERSON, Attorney, Owensboro.	
	To attorney fees in case of Ernest Bartlett vs. Dr. P. D. Gillim.	
February 29—	Voucher Check No. 85.....	\$ 19.25
	FRANKLIN PRINTING CO., Louisville.	
	To 5,000 letter heads 8½x11.	
February 29—	Voucher Check No. 86.....	\$ 16.92
	BUSH-KREBS CO., Louisville.	
	To 3 cuts and 1 drawing.	
February 29—	Voucher Check No. 87.....	\$ 115.50
	MRS. E. B. KRIEGER, Louisville.	
	To 25 % on ads amounting to \$462.00.	
February 29—	Voucher Check No. 88.....	\$ 321.80
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
	To February issue, 2500—62 pgs.....	\$320.00
	To 2,500 envelopes.....	15.00
	To printing envelopes.....	2.30
	To 30 changes.....	6.00
	Total.....	\$343.30
	Less 86 Journals short at 25c each.....	21.50
		\$321.80
March 11—	Voucher Check No. 89.....	\$ 635.59
	TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
	To telephone message.....	\$ 1.15
	To telephone message.....	.90
	To 2500, 96 pg. March issue.....	608.84
	To 2 pages set from duplicate copy sent.....	3 00
	To printing envelopes.....	2.30
	To 2500 envelopes.....	15.00
	To 22 changes.....	4.40
	Total.....	\$635.59
March 31—	Voucher Check No. 90.....	\$ 150.00
	DR. A. T. McCORMACK, Secretary, Louisville.	
	To March salary.	
March 31—	Voucher Check No. 91.....	\$ 100.00
	DR. L. H. SOUTH, Business Manager, Louisville.	
	To March salary.	
March 31—	Voucher Check No. 92.....	\$ 75.00
	ELVA GRANT, Bookkeeper, Louisville.	
	To March salary.	

March 31—Voucher Check No. 93.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for March.	
March 31—Voucher Check No. 94.....	\$ 1.89
MEFFERT EQUIPMENT CO., Louisville.	
To 500 4x6 Pl. cards for files.	
March 31—Voucher Check No. 95.....	\$ 500.00
JOHN B. O'NEAL, Attorney, Covington.	
To attorney fees in case of W. H. T. Ranshaw vs. Dalhoff.	
March 31—Voucher Check No. 96.....	\$ 25.00
HAUPT CO., Louisville.	
To 1 design for Dr. McMurtry.	
March 31—Voucher Check No. 97.....	\$ 2.25
KENTUCKY BOOK MFG. CO., Louisville.	
To binding 1 book, Kentucky Medical Journals of 1923.	
March 31—Voucher Check No. 98.....	\$ 50.00
CLARENCE NEIGHBORS, P. M., Bowling Green.	
To postage on Journals.	
April 30—Voucher Check No. 99.....	\$150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To April salary.	
April 30—Voucher Check No. 100.....	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To April salary.	
April 30—Voucher Check No. 101.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To April salary.	
April 30—Voucher Check No. 102.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for April.	
April 30—Voucher Check No. 103.....	\$ 299.20
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To April issue of Journal 2350—64 p.....	\$335.40
To 25 changes.....	5.00
To printing envelopes.....	2.30
To envelopes.....	15.00
	<hr/>
Less by delay.....	\$40.00
Less by 74 Journals short at 25c each.....	18.50
	<hr/>
	\$299.20
May 31—Voucher Check No. 104.....	\$150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To May salary.	
May 31—Voucher Check No. 105.....	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To May salary.	
May 31—Voucher Check No. 106.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To May salary.	
May 31—Voucher Check No. 107.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for May.	
May 31—Voucher Check No. 108.....	\$ 100.00
DYSARD & MILLER, Ashland.	
To attorney fees in case of Dr. A. C. Bonl vs. Russell Blackburn.	
May 31—Voucher Check No. 109.....	\$ 371.52
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To May issue of Journal, 72 p., 2500.....	\$386.97
To printing envelopes.....	2.30
To 2,500 envelopes.....	15.00
To 25 changes.....	5.00
	<hr/>
Less 3 days delay at \$10.00 each.....	\$30.00
Less 31 errors at 25c each.....	7.75
	<hr/>
	\$371.52
Total.....	<hr/>
June 30—Voucher Check No. 110.....	\$ 150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To June salary.	
June 30—Voucher Check No. 111.....	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To June salary.	
June 30—Voucher Check No. 112.....	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To June salary.	
June 30—Voucher Check No. 113.....	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for June.	
June 30—Voucher Check No. 114.....	\$ 200.00
BOLDRICK & SPRAGENS, Lebanon.	
To attorney fees in case of Dr. G. G. Thornton vs. Ernest Knopp.	
June 30—Voucher Check No. 115.....	\$ 141.75
C. W. COOK, Clerk, Marion Circuit Court.	
To court costs in case of Dr. G. G. Thornton vs. Ernest Knopp.	
June 30—Voucher Check No. 116.....	\$ 100.00
FRED FORCHT, Attorney, Louisville.	
To attorney's fee in case of Dr. C. G. Forsee vs. Ada Leshar.	
June 30—Voucher Check No. 117.....	\$ 30.85
LOUIS VISSMAN, Clerk, Jefferson Circuit Court	
To court costs in case of Dr. C. G. Forsee vs. Ada Leshar.....	\$13.00
To court costs in case of Dr. David Y. Keith vs. Emma Veetch.....	17.85
	<hr/>



June 30—Voucher Check No. 118	\$ 50.00
JOHN HOWARD, Attorney Middlesboro.	
To attorney's fee in case of Broshear-Brummett.	
June 30—Voucher Check No. 119	\$ 23.75
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To 500 letter heads and 500 envelopes, Eighth District	\$6.50
To 500 letter heads and 500 envelopes, Eleventh District	6.50
To 500 letter heads and 500 envelopes, Ninth District	6.50
To 200 letter heads and 200 envelopes, Pres.-Elect	4.25
Total	\$23 75
June 30—Voucher Check No. 120	\$ 406.35
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To 2100 June Journals, 80 p.	\$381.40
To 2100 envelopes	15.00
To printing envelopes	2.30
To 25 changes	5.00
To mailing May Journals to Louisville	2.65
Total	\$406.35
June 30—Voucher Check No. 121	\$ 24.00
MRS. E. B. KRIEGER, Louisville.	
To 25% commission on ads amounting to \$96.00.	
July 31—Voucher Check No. 122	\$ 150.00
DR A. T. McCORMACK, Secretary, Louisville.	
To July salary.	
July 31—Voucher Check No. 123	\$ 100.00
DR. L. H. SOUTH, Business Manager, Louisville.	
To July salary.	
July 31—Voucher Check No. 124	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To July salary.	
July 31—Voucher Check No. 125	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for July.	
July 31—Voucher Check No. 126	\$ 342.91
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To July issue 2100—96 pg.	\$429.00
To envelopes	15.00
To printing envelopes	2.30
To 30 changes	6.00
To mailing Journals to Louisville	.86
Total	\$453.16
Less by 46 errors at 25c each	11.50
	\$441.66
Less credit of ck No. 50-A, October 31, 1923	98.75
	\$342.91
July 31—Voucher Check No. 127	\$ 2.50
TIMES-JOURNAL PUBLISHING CO., Bowling Green.	
To 500 envelopes Councilor Third District.	
July 31—Voucher Check No. 128	\$ 10.00
ELECTRIC BLUE PRINT & SUPPLY CO.	
To floor space plan for Exhibit, 200 at 5c each	
July 31—Voucher Check No. 129	\$ 200.00
ALLEN R KINCHELOE, Attorney, Hardinsburg.	
To attorney fee in case of Dr. J. C. Tucker, vs. E. C. Mercer.	
July 31—Voucher Check No. 130	\$ 250.00
JOHN P. HASWELL, Attorney, Louisville.	
To attorney fee in case of Dr. J. C. Tucker vs. E. C. Mercer.	
July 31—Voucher Check No. 131—A	\$ 150.00
FRED FORCHT, Attorney, Louisville.	
To retainer's fees to July 1, 1924.	
August 30—Voucher Check No. 131	\$ 150.00
DR. A. T. McCORMACK, Secretary, Louisville.	
To August salary.	
August 30—Voucher Check No. 132	\$ 100.00
DR. LILLIAN H. SOUTH, Business Manager, Louisville.	
To August salary.	
August 30—Voucher Check No. 133	\$ 75.00
ELVA GRANT, Bookkeeper, Louisville.	
To August salary.	
August 30—Voucher Check No. 134	\$ 100.00
STATE BOARD OF HEALTH OF KENTUCKY.	
To legal service for Medical Practice Work for August	
TOTAL	\$18,284.60

## REPORT OF THE COUNCIL

To the House of Delegates:

The attention of the House is called especially to the report of the Secretary and Treasurer showing that the net balance on September 1, 1924, is \$1,667.67 as compared with the net balance of \$1,769.63 as of the same date last year.

The three major activities of the Association are the publication of the JOURNAL, the medico-legal and medical law enforcement work, and the routine work of the Association.

It will be noted that the income of the JOURNAL was \$7,016.14 and that the entire expense of its production was \$6,985.52, so that it is self-supporting. While this is true, it is true because the editor has arbitrarily held the size of the JOURNAL within its income and this has resulted in more unpublished articles being left on hand at the end of the present year than at any time before in its history. The policy of the Association since the organization of the JOURNAL has been to publish all papers read before county societies which are sent to the editor by their respective secretaries. This policy has, naturally, been one of the largest contributing factors to improved medical service to the people of the State. A study of the progress of the profession from year to year, as indicated by the pages of the JOURNAL, can only afford gratification to every thoughtful physician and student of affairs. The House of Delegates should determine whether a sufficient additional income should be provided for the JOURNAL to enable it to continue this constructive policy or whether it should become, as most state or privately owned medical journals are, a selective organ which would publish only such material as the Council should select from the offerings made to it. The Council recommends that at whatever cost the policy that has prevailed since the establishment of the JOURNAL should be continued. The editor estimates that it would cost \$2,000 more to have included in the JOURNAL all of the articles submitted this year.

The editor has recommended to the Council, and the Council has approved, the policy of hereafter publishing no case reports or impromptu addresses before any other than regularly organized county societies.

One of the sources of income of the JOURNAL has been the securing of advertisements which paid for a definite number of pages by special societies and case reports before these societies have frequently been loose-

ly made and they are no longer deemed worthy of publication.

The routine work of the organization, including the salary of the Secretary, has cost about the same amount for the past several years. There was a slight reduction in this cost last year from the preceding two years.

The Association for the past three years has co-operated with the State Board of Health in the enforcement of the medical practice and other health laws. For the two preceding years the expenditure of the Association, under this co-operation, has been \$2,400 a year, but additional income to the State Board of Health has enabled us to reduce the cost of this co-operation for the current year to \$1,500 and, after conference between the members of the Council and the State Board of Health, we are sure it can be continued for the next year at cost to the Association of \$1,200. The Council recommends that this co-operation be continued. Under our system of court procedure, the constantly changing county and commonwealth's attorney, elected under our political system, of the selection of such law enforcement officers, unfortunately, frequently result in the selection of men who are not sufficiently energetic or competent to enforce the medical and health, or, in fact, any of the other laws of the Commonwealth. Realizing, as physicians do, the special importance of the enforcement of the health and medical laws, it is natural that our attention should be centered especially on neglect of their enforcement. In those sections of the State where the physicians have joined with other progressive organizations of citizens in the selection of really competent law enforcement officials and judges, there has been no cause for complaint. Complaints of evasions of laws through the courts come from the poorly organized counties and districts which continue to select their officials as rewards for political service or because of the predominating influence of some special interest and these conditions can only be overcome by the education of the elector as to the importance of the election of competent officials. During the past year, the services of our attorneys have been called for in more than 300 cases and their efforts, aided by the commonwealth's and county attorneys in many sections of the State, have resulted in the largest number of convictions of violations of the health and medical laws that has occurred in any year since 1893, in which year the law first became effective and a large number of quacks were prosecuted and driven from the State.



Contrary to the expectations of the Medico-Legal Committee the cost of the work of this Committee continues to increase. Last year, the attorneys' fees of this Committee amounted to \$2,189.62 and this year they have increased to \$3,080.55. This means that unjust blackmailing malpractice suits continue to be brought against reputable members of the profession in about the same number as when this work was first organized. The depreciation in value of the dollar make the cost of defending these suits relatively higher because fees have increased as have all other costs of living. The Council can not find words to express its appreciation of the effective work, especially, of Dr. Moren, the Chairman of this committee, and Honorable Fred Forcht, its general counsel. It should be clearly understood by the profession that the Association furnishes attorneys only for the defense of unjust malpractice suits. The report of the Committee, which will be made in detail, will show again that several verdicts have been rendered against physicians but the Committee is of the definite opinion that these verdicts were in each such instance unjustifiable. It is very important that physicians generally carefully consider the character of such suits as have been brought because the smallest legal precaution taken at the right time would have prevented the possibility of an adverse verdict in every one of them. The whole subject of malpractice procedure has become definitely technical and, in order to avoid becoming victims of its operation, the profession must acquaint itself with these procedures as it does with the other complexities of modern medical practice.

Between the value of the major activities of the Association, the Council finds itself unable to discriminate. We do not see how either of them could be abridged at all, and there are a number of other things that the Association should do that it finds itself unable to do upon its present income. Consideration of methods for the increase of the income of the Association is asked of the House of Delegates and delegates from the various counties are urged to discuss these matters at the regular or special meetings of their societies before coming to Louisville, so as to secure the consensus of opinion of the entire profession.

During the year, the Council regrets that it has found it necessary to prefer charges before the State Board of Health against a number of physicians who have been convicted in the State or Federal courts for violation of the narcotic or prohibition law. The Council feels that the administration of these laws has been made unnecessarily irksome

to the competent, honest, self-respecting member of the medical profession by their continued violation by a very small minority, which has continued to bring reproach upon the entire profession by their disregard of the plain purposes and provisions of the law. Regardless of individual opinion, it should be understood by every physician in Kentucky, and should be made plain to the public, that, under the federal law, habituation to narcotics is not a disease that should be treated by providing narcotics and that alcohol can only be prescribed legitimately for patients who are actually under treatment by the physician writing the prescription for a definite disease, in which alcohol is indicated. Several of the individuals whose licenses have been revoked upon the charges preferred by the Council have dispensed larger quantities of narcotics in the proven cases against them than are dispensed legitimately by the entire medical profession of the State. Such a condition can not continue and the Council desires to give notice now that, acting under the repeated instructions of the House of Delegates, it will continue to prefer charges looking to the revocation of the right to practice medicine in the State of every member of the profession who is found guilty in a State or Federal court of violation of either the Harrison or Volstead act. It can not be repeated too often that the officials charged with the enforcement of these laws can not relax in their strict adherence to provisions, which seem to most of us unnecessary, until the people have been protected from the class of ignorant or soft-headed and soft-hearted physicians who pander to this trade in violation of the law.

The membership of the state and county societies for the year continues about the same as for each of the past four years. We have called the attention of the House from year to year to the fact that about 400 of our physicians, who are in active practice and who are actively interested in our work, are in and out of the Association from year to year and, in this way, fail to keep in touch with movements for the betterment of the profession and the public health, and we, again, urge the House to take steps at this session for an increasingly strict adhesion to business methods in the conduct of the affairs of the Association so that the members will understand that it is incumbent upon themselves to pay their dues and meet their other obligations to the county and state societies as promptly as they pay their taxes or insurance. During the year, a number of physicians who have failed to keep themselves in good standing have found that they had

to bear the entire expense of their own protection from malpractice suits because they had delayed sending in their dues and were not in good standing. Acting under your instructions last year, members who became delinquent can not be defended for any malpractice suit which has been brought prior to that delinquency. The council suggests this again so that the members in every county may be upon notice that their dues should be paid promptly on January 1st of each year.

During the session of the General Assembly vicious attacks were made upon our medical and health laws from many sources. The profession is thoroughly familiar with these attacks and their efforts, combined with those of the progressive citizenship of the State, succeeded in defeating all of them. The profession will continue to win such victories just so long as it deserves to win them. Members of the House of Representatives and the Senate who supported our efforts should be commended by the profession, and similar progressive senators and representatives should be elected for the next General Assembly.

The victory of the profession, however, should be realized as squarely placing upon its shoulders responsibility for improvement in public health. Here and there physicians are heard to complain that activities along modern sanitary lines are depriving the profession of a large part of its natural income. Such complaints come from men who are unworthy of membership in our ancient and honorable profession. That the death rate from typhoid fever has been reduced 60 percent in the last 14 years; that diphtheria has been robbed of its victims by the early and prompt administration of toxin-antitoxin; that the death rate from tuberculosis has been cut in half; that the preventable infectious diseases are constantly decreasing, is a matter in which every worthy physician takes pride. Larger and more satisfactory incomes are being received by the progressive members of the profession who are qualifying themselves to, and who are, making systematic physical examinations of the apparently well, who are undertaking the dietetic and hygienic management of their families, who are immunizing their patrons biennially from typhoid fever and giving the children in their practice permanent immunization from diphtheria with diphtheria toxin-antitoxin, and who are undertaking the sanitary supervision of the homes of the families in their practice with a view to seeing that they are securing pure drinking water and have safe and sanitary methods of sewage disposal. These life-saving services, when furnished by competent men, are of recognized value to the indi-

viduals who secure them, and they are paid for far more gladly and regularly than the merely remedial service of past decades. Charts will be exhibited at this meeting to show the continued progress in public health and in the practice of medicine in Kentucky. The death rate continues to be reduced. In this connection, it is important that our attention again be called to the historic fact that before 1888 anyone who desired could practice any branch of the healing art anywhere. The State was overrun with traveling quacks and empirics as well as the stationary variety. The columns of our newspapers contained more columns of quack advertisements than of reading matter. It is important to remind our newspapers and legislators that before 1888 the death rate was practically three times its present rate. This is the best answer to those who say reduce the standard of requirements for those practicing the healing art. It is important to remember, also, that more hospitals are being built, more effective work is being done by the profession than ever before, and, if the counties which are complaining about a shortage of physicians will recognize their value and make provision for their proper compensation and will at the same time stop talking about bad roads and devote their time and money to the building of good roads, so that their people are made accessible and will develop schools where their own and their physician's children may be educated, they will find no difficulty in securing first class medical service.

During the past year, many more county societies have held diagnostic clinics along various lines that were endorsed in our reports for the past two years. This has been particularly true in tuberculosis and no other factor has been of greater assistance in reducing the sick and death rate from this serious disease than these clinics. Careful investigation has shown that the climate of Kentucky is quite as good as that of any other state. This has enabled our splendidly equipped and conducted State Tuberculosis Sanatorium at Hazelwood, in the suburbs of Louisville, to be conducted at a less per capita cost than any other similar institution in the United States. It is important for the medical profession of Kentucky to realize that patients receive at this institution at a cost to each of them of \$15.00 a week quite as good, and in many cases much better, attention and treatment than is given them at other sanatoriums in distant states at multiples of this cost. We still feel that it is unfortunate that no provision has been made by the General Assembly in this institution for the free treatment of cases occurring among our indigent



population, but it is of importance that every physician remember that patients who are able to pay \$15.00 a week can be as well treated at Hazelwood as any other tuberculosis sanatorium in the country.

A number of clinics for crippled children and adults have been held by various societies and the Kentucky Crippled Children's Association, associated with the Rotary Clubs and Shriners and other similar patriotic organizations, is doing a splendid work in this field. The recent General Assembly made an appropriation for the support of this activity and it is confidently expected that Kentucky will find itself in line with other progressive states in the relief of these unfortunates.

Cooperating with the State Board of Health, many societies have held trachoma and other eye, ear and throat clinics. The profession and people may be congratulated that trachoma is a rapidly disappearing disease. We can confidently expect, with the same energy on the part of the profession and welfare organizations for another decade, this serious disease, with its resulting economic and social losses, to be as rare in Kentucky as in any other state. In 1912, Dr. John McMullen, after a careful survey of the State, reported that there were more than 60,000 cases of the disease within its confines. We are confident that there are now less than 6,000 but many of these have to be hunted out individually and each of them is a contributing factor to the infection of others so long as they exist and the campaign cannot be relaxed until the last case is relieved.

Under the operation of the Sheppard Towner law, as adopted and approved by two consecutive sessions of the General Assembly, and as repeatedly approved by this Association, numerous clinics for pregnant women and young babies have been organized throughout the State. Every one of these has been held with the cooperation and under the management of the county medical societies. No work which has ever been undertaken by the profession has proved so popular nor more profitable. For the first time in the history of the State, as result of this systematic campaign, increasing numbers of pregnant women are under constant medical supervision and healthy babies and children are being constantly brought to physicians' offices so that tendencies toward disease may be recognized and corrected. These activities of the profession are easily the most important social activities for the betterment of the State. We are improving health conditions faster than roads are being built or than schools are being adequately and properly provided with buildings or teachers. We

have the most difficult task of the three and it is being done for less than a hundredth of the cost of these other activities of the State and is being done more adequately and more rapidly. Members of the profession should constantly be bringing this to the attention of the public so that they will understand that we are interested in the public welfare and that we are making practical all the discoveries of modern science that have any bearing on our health problems, with a view to keeping our people efficient during their normal length of life. It is urged that county societies hold public meetings in various sections of each county where the public may be educated in regard to these necessary measures and that clinics be held by the county societies for the administration of prophylactic vaccines for the indigent. If this were done actively in every county, it would reduce our death rate to that of the other states in the Union that do these things. It should be constantly emphasized that good roads and good schools will only be of value to healthy children and grownups.

The financial report by the Secretary and Treasurer is in great detail, and we trust every member, and especially every member of the House of Delegates, will read it carefully and thoughtfully.

It should be realized by the members of the Association that the JOURNAL has been published because of the continued active support of our advertisers, and we desire to again urge the House of Delegates to take steps to bring the importance of the patronage of these advertisers before the various county societies. Our advertisers pay for the publication of the JOURNAL. The value of the JOURNAL to every doctor who reads it is apparent. This Association guarantees the financial integrity of the advertising columns of the JOURNAL. For these reasons, we feel we have a right to ask our members to patronize the advertisers, or, at least, to give them opportunity to secure their patronage, other things being equal.

These same remarks apply to the exhibits at the annual meetings. These exhibitors pay the expense of the annual meetings. They are carefully selected from amongst a much larger number of applicants by a special committee of this Council, and their exhibits bring before us the various improvements in medical and surgical technique in a way that would be impossible without these exhibitors. The exhibit at the Brown Hotel this year will in every way, be the best that has ever been held by the Association. The Council desires to urge those in attendance to carefully study the exhibits and patronize the exhibitors.

In quite a number of counties, the Council has noted with enthusiastic approval the very effective work of the Ladies' Auxiliary. They have sponsored public meetings, have prepared papers on health and medical subjects to be read before women's clubs, church organizations, teachers institutes, have sponsored the baby clinics, have helped in securing patients for the other clinics and attendance at the lectures, and have made themselves generally active in promoting the welfare of the profession to which they are attached. The Council urges that in every county the wives, daughters and mothers of physicians be organized into an active club that will be continually doing these things for the welfare of the State.

It is unnecessary for the members of the House to be reminded that they have absolute control of all matters of public policy which affect the practice of medicine and public health in Kentucky. The public has clothed us with responsibility in these matters. Sufficient time at this session will be devoted to their consideration to enable us to arrive at the right conclusion regarding the continuation of our program. It is the duty of the House of Delegates to instruct its officers exactly as to how they want this done.

Respectfully submitted,

R. C. McChord, M. D.,  
Chairman.

**Epidemiology of Malaria in Russia.**—The present wide-spread epidemic of malaria in South Russia is of deep interest. Over enormous tracts of land, where subtertian malaria was unknown and tertian malaria rare, these diseases are now almost pandemic—up to 90 per cent of the population being afflicted in many areas. Points of interest in the epidemics seen by Mackenzie are: (1) The rapid spread of the epidemic in the extremely cold winter months in Russia. (2) The mode of spread through the means of the infected water-butts of the peasants' houses.

(3) The fact that subtertian malaria reached its maximum in November, December and January and afterward almost disappeared. (4) The monthly alteration in the quartan incidence. (5) The extreme susceptibility of a population weakened by famine and disease. (6) The small number of relapses (including reinfections) after prolonged quinin treatment. (7) The pandemic nature of the outbreak.

## COMMERCIAL EXHIBITS

B. B. FORTNEY & COMPANY  
414 WEST CHESTNUT ST.,  
LOUISVILLE, KENTUCKY.

Booth 1.—Displaying and demonstrating McIntosh Electrical and Burdick Cabinet Company Physio-therapy Equipment, High Frequency Diathermy, Sinusoidal and Galvanic; also Light Radiation, embracing Quartz Ultra-Violet and Deep-therapy Lights.

NUJOL LABORATORIES  
STANDARD OIL CO., N. J.

Booth 2.—The display offered by Nujol Laboratories will be characterized by simplicity and dignity. Blue velvet will serve as a background for colored illustrations of the pathological intestinal tract. In front of this curtain there will be a modest arrangement of the "Nujol Groups"—bottle, carton, clock and spoon.

The booth will be officered by Mr. D. A. O'Gorman, who has been representing Nujol Laboratories at various state medical conventions.

THE CHAS. H. PHILLIPS CHEMICAL CO.,  
NEW YORK, N. Y.

PHILLIPS' DIGESTIBLE COCOA — Easily digested, highly nourishing substitute where liquid diet is necessary and milk not liked.

THE SCHOLL MFG. CO.,  
CHICAGO, ILLINOIS.

Booth 6.—The Scholl Manufacturing Company's exhibit will consist of a full line of Arch Supports, Corn Pads, Heel Cushions, etc., in addition to full Window Display Material.

PITMAN-MOORE COMPANY,  
INDIANAPOLIS, INDIANA.

Booth 7.—Pitman-Moore Company of Indianapolis, Indiana, will occupy space No. 7 and will exhibit high class ethical pharmaceutical products. The production of guaiacol and creosote sulphonates will also be shown, beginning with the ordinary chemical of compounded and ending with the finished purified products as it is used in our preparation Sol-guatone.



## HORLICK'S MALTED MILK CO.

RACINE, WIS.

Space No. 8.—The Horlick's Malted Milk Company, Racine, Wisconsin, desire to call your attention to their exhibit, where their well-known products will be interestingly presented.

They will also demonstrate the new Dumore Electric Mixer—Model No. 6—“Horlick's which greatly facilitates the preparation of Horlick's Malted Milk and barium sulphate as a suspension media in X-Ray diagnosis. The mixer is very convenient also for preparing delicious Malted Milk at home, and for serving to patients in the office.

Samples and literature will be supplied and the representative in charge will be pleased to answer your inquiries.

## E. R. SQUIBB &amp; SONS

NEW YORK, N. Y.

Booth 9.—Our exhibit will be a display and demonstration of Biologics and related products, Arsphenamine products, and Pharmaceuticals.

These are the products of the Squibb line which we have found are especially interesting to the Medical Profession.

## THE ZEMMER CO.

PITTSBURGH, PA.

Space No. 10.—The Zemmer Company, Pittsburgh, Pa., will display their line of high class pharmaceutical products comprising medicinal tablets, capsules, lozenges, hypodermic tablets, glandular products, elixirs, etc. Their representative Mr. Mayer, will have charge of this display and will be pleased to receive a call from the members of the medical profession that will attend this meeting. He will demonstrate their products and supply physicians with samples of various preparations submitted.

## MELLIN'S FOOD COMPANY

BOSTON, MASS.

Booth 11-12.—To place before physicians accurate information relative to the quality and quantity of the nutritive elements in Mellin's Food is the purpose of the display in spaces eleven and twelve. Representatives who have had special training in regard to infants' nutrition will be pleased to give careful attention to every question pertaining to the subject and particularly as it may concern the application of Mellin's Food as a milk modifier. Liberal co-operation will be offered to physicians who desire to employ

Mellin's Food in their private practice or public clinics.

## DICK X-RAY CO.,

LOUISVILLE, KY.

Booth No. 13.—The Dick X-Ray Company, Louisville, will display the new style Keleket 7" Mobile Unit, which is a decided advance in X-Ray apparatus for both the doctor's office and mobile work in the hospital. This unit has been a wonderful success in the short time that it has been on the market.

There will also be on display the new style Keleket stereoscope, which has attracted a great deal of attention with the doctors throughout the country.

## FAIRBANKS-MORSE &amp; CO.

LOUISVILLE, KENTUCKY.

Booth 15.—There will be on display in booth 15 Health Scales, School Scales, Infant Scales and Clinic Scales. Those visiting the exhibit will be perfectly welcome to weigh on any of the scales and we will also have a supply of Height and Weight Cards and Graphic Weight Charts for free distribution.

## THEODORE TAFEL

LOUISVILLE, KY.

Booth 16-17.—Theodore Tafel will show a genuine line of surgical instruments including a number of new items, also a line of instruments made of rustless steel.

## DESHELL LABORATORIES, INC.

LOS ANGELES, CALIF.

Booth 19.—Petrolagar has been accepted for New and Nonofficial Remedies by the Council on Pharmacy of the American Medical Association.

Those who have been disappointed in the action of mineral oil will be more than gratified by the effect of this improved modification of the mineral oil and agar treatment for constipation.

## THE RADIUM CHEMICAL CO.

PITTSBURGH, PA.

Booth 21.—“THE RADIUM CHEMICAL COMPANY of Pittsburgh, will exhibit instruments for the handling of radium element in tubes and needles, and radon (radium emanation) in implants, tubes, needles, local packs, etc. Experts will be in attendance to demonstrate instrumentation and to discuss the various problems connected with radium work. Operators and all others interested in radium and radon work will find it profitable, we believe, to visit this exhibit.”

MEDICAL PROTECTIVE CO.,  
FORT WAYNE, IND.

Booth 22.—“The Medical Protective Company, of Fort Wayne, Indiana, will hold forth in booth No. 22. Mr. D. H. Bixler, one of the experienced agents of the Company, will be on hand to explain the contracts and methods of the organization which originated malpractice insurance, and has been for over twenty-five years in doing this one thing right. Many interesting experiences may be had from Mr. Bixler, shedding considerable light upon the causes from which have arisen over 18,000 claims and suits for malpractice against professional men during the history of the Company. This personal representation at the convention is for the benefit of the many policy holders of the Company, as well as those who contemplate future interests in the details of the plan.”

VICTOR X-RAY CORPORATION  
CHICAGO, ILL.

Booth A.—Visitors to the Victor Exhibit will have an opportunity to see a number of new and advanced designs in physiotherapy apparatus, which are of immediate importance and interest to every physician.

One of the outstanding features of this exhibit will be the Victor line of Ultra-Violet Quartz Lamps, both air-cooled and water-cooled types. A study of these designs will reveal the fact that very definite advantages have been obtained through departure from a number of mechanical and physical principles too long inherent in quartz lamps since the advent of ultra-violet radiation in medical practice. These Victor lamps are a valuable contribution to medical science, and prove, too, that the engineering and research departments of Victor X-Ray Corporation are, with the co-operation of the profession, constantly developing and improving physiotherapy apparatus as well as X-Ray apparatus, to the end that the physician may utilize these valuable agents to the utmost advantage.

Other Victor physiotherapy apparatus for high frequency, galvanic, sinusoidal and phototherapy will likewise convince observers of a real sincerity in manufacturing effort.

The X-Ray equipment will consist of the Victor Stabilized Mobile X-Ray Unit, incorporating such exclusive features as the auto transformer control, circuit breaker and stabilizer. These features have been included in this outfit because of a great deal of research and experimental work and after a close study by our Engineering Department. The Unit is compact and meets all the requirements of physicians in general practice for radiographic and fluoroscopic work.

## ORIGINAL ARTICLES

SOME PRACTICAL PEDIATRIC  
SUGGESTIONS.\*

By R. JULIAN ESTILL, Lexington.

Rather than bore you with a set essay on some Pediatric Subject which any of you could read at your leisure from a book on Diseases of Children with infinitely more profit to yourselves, I suggested to your Secretary that he permit me to talk to you about some of the practical problems that constantly confront the Pediatricist and consequently the General practitioner, who after all is said and done, sees more sick babies than any one else.

It seemed to me practical to limit the subject matter, partially at least, of this more or less rambling talk, by selecting from my Case records the more common and frequent class of cases as seen from day to day in practice.

Probably the largest class of cases met with, and certainly far and away the most important, are the so-called “Difficult Feeding Cases.”

I am sorry to admit that most of these cases could have been prevented by intelligent or even diligent attention to the nursing mother. Of course there are some cases where it is necessary to take the baby from the breast, notably maternal pulmonary tuberculosis, always a definite indication for weaning the baby, since we know that the infection is carried to infants by contact with tuberculosis patients, many babies, however, are taken from the breast for slight and totally inadequate causes, notably, colic and frequent green stools. If the baby is gaining in weight I do not care what kind of stools he is having or how much colic he is having naturally. I try to find out the cause for the colic and usually can find it in the mother's diet, which should consist of plain wholesome ordinary general diet, excluding only the acid fruits and vegetables with the addition of milk and oatmeal gruel.

Since Nature's food for the baby is breast milk, it is reasonably certain that if the baby is having some digestive disturbance when taking breast milk, he will almost certainly have more trouble in digesting any form of artificial feeding which is at best only a very poor substitute.

The majority of difficult feeding cases brought to me have been weaned for insuffi-

\*Read before the joint meeting of the Garrard, Lincoln and Rockcastle County Societies.



cient reasons and usually has been put on some proprietary food with no other instructions than to say to the mother, "You will find the directions on the package for feeding the baby." These babies change in rapid succession from one proprietary food to another often making a change every day or two, and after a few weeks the mother and Doctor wake up to the fact that the baby has failed to gain or more often has lost weight ever since he was taken from the breast and nothing you can mix up for him will agree with him, in the mean time the mother's breast has dried up and a suitable substitute feeding is the difficult problem to be solved, again, a small amount of breast milk is better than none and many babies can be kept on an insufficient breast supply by adding a complemental feeding after each nursing, the insufficiency of the breast may be temporary and after a few days or weeks resume its normal function necessitating no further addition, here the breast supply has been saved and also the baby.

In spite of every care, however, some babies must be bottle fed and the task of supplying a suitable food has been tremendously simplified in the last few years. The calculation of artificial feeding formulae does not any more as formerly, look like a difficult problem in higher mathematics, but has resolved itself into the simple dilution of whole milk and the addition of cane sugar. All milk fed to babies must be boiled for five minutes, the former opinion as to the development of Rickets or Scurvy has been changed since we now know that a baby has in its blood a sufficient supply of vitamins A, B, C, and D, from its mother's blood to last for the first six months of life, hence, no precautions are necessary before this time and by the sixth month the addition of orange juice or tomato juice and the cereals and cod liver oil, both Scurvy and Rickets will be prevented.

The fundamental principles of successful infant feeding can all be included under the following heads.

#### 1. Sufficient Calories.

No infant feeding can be successful unless the baby gets a sufficient amount of calories in his food, we know that a baby will require from 40 to 50 Calories per pound body weight per day in order to gain weight, (Jackson Baby).

Under nourished vs. Normal babies.

#### 2. Sufficient,

Proteids,  
Carbohydrates,  
Inorganic Salts,  
Water,  
Vitamins, A, B, C, & D.

#### 3. Free from harmful Bacteria,

#### 4. Digestibility.

In the application of these fundamental principles to the practical task of feeding a baby, it has been found from experience that starting with good clean milk, a baby will require approximately one and one half ounces of whole milk per pound body weight per day, for example, a baby weighing ten pounds will require fifteen ounces of milk per day in order to secure the necessary caloric requirement, then as we know that breast milk has a higher sugar percentage than cow's milk it becomes necessary to add sugar which raises the caloric value to approximately that of breast milk, it has further been found that a one month old baby requires that one half an ounce of sugar be added to the day's supply of milk, this should be increased to one ounce at two months of age and one and one half ounces given by the third month, this seems to be the upper limit of sugar tolerance; usually diarrhoea will supervene if the amount of sugar is increased much beyond this amount.

The interval of feeding is important, usually the three hour interval is best up to two or two and a half months then the four hour interval. The amount of each feeding naturally varies somewhat but a good practical rule will be that a baby will take at each feeding about one ounce more than he is months old, that is, a two months old baby will usually take about three ounces at each feeding, after the four hour interval feedings are begun the baby will take about two ounces more than he is months old, so in order to make up the feedings for the whole day, one has only to calculate the amount of whole milk and sugar required, divide it into the six or seven feedings as the case may be and make each feeding up to the necessary quantity by adding boiled water until the third month and then substituting Barley water. This is infant feeding in a nut shell.

In some premature or poorly nourished new born babies a higher caloric food value is required than we can obtain with sweet milk dilutions, in other words these babies are unable to digest enough sweet milk to gain in weight, diarrhoea intervening before sufficient food is taken. It has been found that these babies can get greater food value by using butter milk to which Karo corn syrup is added, either fresh butter milk or that made with the lactic acid bacillus may be used. Marriott's rule is as follows: "Add four ounces of 50 per cent Karo corn syrup to one quart of butter milk and give the baby all he will take every three hours." While this would seem to be a pretty crude method to adopt in applying so important

and delicate a matter as the feeding of a baby, as a matter of fact it works out very satisfactorily since a baby will take usually about the required amount for his age and size and then refuse to take any more, and it does work out approximately according to the rule that a baby will take at each feeding about one ounce more than he is months old.

Now, while all of this sounds very simple and is simple, I would not lead you to believe that a panacea for all feeding cases has been found, however in about 95 per cent of the cases this is all that is necessary.

All of us have such feeding cases which do badly, no matter what they are fed, this should warn us to search carefully for some focus of infection, no baby will thrive on artificial feeding in the presence of an infection particularly head colds, bronchitis, otitis media, pyelitis etc., and if any of these infections are present they must be cleared up before the baby will gain in weight. Still other mal-nourished young babies will fail to gain on any form of artificial feeding and in these cases, after giving them a chance and carefully excluding any infection as the cause, should be given wet nursing without too long delay as nothing else will save their lives, after they have gotten a good start they may be gradually changed over to sweet milk or butter milk feeding and will progress satisfactorily.

The next most common condition met with is "Summer Diarrhoea." The treatment of this condition likewise has been completely revolutionized in the last few years, naturally all of us will agree that prophylaxis here is well worth more than the proverbial pound of cure, and fortunately with the use of boiled sweet milk and butter milk the severe diarrhoeas formerly seen are reduced to a minimum.

For purposes of practical classification and treatment, all Summer Diarrhoeas may be divided into two groups.

1st. By far the greatest number are the simple fermentative diarrhoeas with no real pathological changes except an acute catharrhal inflammation of the intestinal mucosa.

2nd. Infectious or bacillary diarrhoeas which are characterized by blood and pus in the stools and have definite pathology in the ulcerations of the intestinal mucosa, needless to say, these cases are much more serious than the simple cases.

Formerly we thought it necessary to starve these babies until the stools became approximately normal; we now know that diarrhoea may actually be prolonged by starvation and will clear up quickly when feeding is begun. I am sure all of us have seen these little fellows starve to death because of the

previous belief that food would poison them. We are all familiar with the dehydrated, dried out, starved baby of this type whose skin is pasty and like putty has lost all of its elasticity, our task at the present time is to prevent this condition from appearing and fortunately it can be done by forcing water from the beginning by mouth, by rectum and sub-cutaneously, and later if necessary intra-peritoneally. After twelve to twenty-four hours of starvation, the intestinal tract will be pretty well emptied out with no other help than one initial dose of castor oil, never calomel, then starting with plain water and barley water and a little later with boiled skimmed milk or butter milk. In cases thus treated we do not see the exhausted babies we formerly saw under the prolonged starvation treatment. If there is much fermentation and intestinal antiseptics is required 10 per cent argyrol, one teaspoonful three times a day is very effective. Colon irrigations are important, more however because of the water which is absorbed than from any cleansing effect it may exert on the mucous membrane. If there is much tenesmus present the old fashioned starch paste or starch and opium enemata are useful.

Perhaps the next class of cases in frequency and importance, and the last to be considered are the cases of so called obscure pyrexias.

These cases are really very common and call for systematic and very careful complete examination to locate if possible the focus of infection. White says: "There are two classes of doctors, poor ones and those who examine the throat, ears and urine of their patients." Of course this simply means that it is not fair to the patient or to the profession at large if a doctor fails to make a thorough and careful examination of his patients. It is a fact that in the vast majority of the cases of so-called obscure pyrexias the pyrexia is not obscure at all but is very obvious when a complete examination of the patient is made.

The causes of these cases in order of their frequency, according to my case records are.

1st. Pyelitis. Whenever one finds a case of irregular pyrexias where a complete careful physical examination of the child reveals absolutely nothing abnormal it is surprising how often you will find pus in the urine, pyelitis is much more common in girls than in boys. The result of treatment is very uncertain, some cases clear up promptly with nothing more than flushing the kidneys with large amounts of water, in other cases long courses of urotropin alternating acid sodium phosphate and sodium citrate will seem to accomplish very little and the case is long



drawn out with periods of improvement and relapses. A child who has one attack is very prone to recurrences from time to time without apparent cause.

2nd. Submerged infected tonsils with cervical adenitis is the second most common cause of long drawn out pyrexias. These cases are easily recognized. A casual inspection of the throat might lead to error as there seems at first sight small tonsils, however, a closer inspection will show that the faucal pillars are spread out over the surface of the tonsils, partially obscuring them from view; the surface of the tonsils is irregular and there are numerous open crypts into which a probe can easily be inserted. Slight pressure over any part of the tonsil or pillars will cause pus to exude from these open crypts. Palpation will reveal enlarged and often slightly tender cervical lymph glands. A common complication in these cases and one which, if overlooked, will cause disappointing results after the infected submerged tonsils and adenoids are removed, is the presence of infection in the nasal accessory sinuses; also a long grade sub-acute otitis media. Both of these conditions should be looked for as a part of the usual routine examination. Both conditions will usually clear up very promptly with the use of alkaline nasal irrigations followed by Argyrol injected into the nose several times a day.

Needless to say, it would be obviously impossible in a paper of this kind to attempt to enumerate all of the pathology which might be responsible for irregular pyrexias and it is certainly true that even the most careful examination will sometimes fail to reveal the cause, however, this does not mean that there is no cause, or in other words there is no such condition as "Idiopathic Pyrexia" but it simply means that we are unable with the means at our command to definitely determine the cause in every case of pyrexia.

Lastly I will mention a cause for prolonged irregular pyrexia which we must always bear in mind, namely, acute or sub-acute miliary tuberculosis. I have seen several of these cases lately and in only two of them were there any definite physical signs in the lungs, however in every one of the cases the X-Ray showed distinct and extensive mottling throughout both lungs, a positive von Pirquet further confirmed the diagnosis. Of course all of these cases go steadily on to a fatal termination. In one case only have I been able to get an autopsy but in that case the diagnosis was confirmed.

#### Conclusions:

1. I want to stress the very great importance of breast feeding and deplore the frequent unnecessary weaning of many babies.

2. A little breast milk is better than none and will be of great assistance in keeping the baby well nourished.

3. Simple dilution of boiled sweet milk with the addition of cane sugar or butter milk with Karo corn syrup is the easiest and most satisfactory method of artificial feeding.

4. Forcing water and early feeding of summer diarrhoeas will very greatly diminish the former high mortality in these cases.

5. I want to stress the very great importance of careful thorough examinations in the cases of so-called obscure pyrexias and to repeat that by this procedure a cause will be found for the pyrexia in the vast majority of cases.

6. I want to apologize for this rambling paper, but I feel that a plain practical dealing with a few of the problems which we are meeting every day in our work, will be of more profit than a hyper-scientific discussion of any rare or unusual condition.

### SUBPHRENIC ABSCESS: REPORT OF A CASE IN CHILD AGED FIVE YEARS.\*

By RAYMOND M. EVANS, Louisville.

Barnard's definition of a subphrenic abscess: "Any collection of pus which is in contact with the under surface of the diaphragm is a subphrenic abscess." Or, as Winslow states: "The term subphrenic abscess is applied to any collection of pus situated immediately below and in contact with the diaphragm."

The history of subphrenic abscess is very interesting. There are three periods, viz.;

(1) Until 1845 none was diagnosed before necropsy.

(2) Barlow, in 1845, made the first antemortem clinical diagnosis confirmed at autopsy.

(3) Not until 1890 was a case reported correctly diagnosed and treated by incision and drainage. This was eighty years after Ephriam McDowell's epochal operation.

The subphrenic fossae are classified as follows:

- |                   |                 |
|-------------------|-----------------|
|                   | Right anterior  |
|                   | Right posterior |
| Intrapertitoneal— |                 |
|                   | Left anterior   |
|                   | Left posterior. |
| Extrapertitoneal— | Right.          |
|                   | Left.           |

The division of these spaces is made by the coronary, falciform, and the right and left hepatic ligaments. The falciform liga-

\*Read before the Jefferson County Medical Society.

ment divides the subphrenic space into right and left compartments, each of these being again subdivided into a larger anterior and a smaller posterior part by the corresponding lateral ligament. The right extraperitoneal subphrenic space lies between the layers of the coronary ligament and is really only a potential space. The left extraperitoneal subphrenic space is in the neighborhood of the upper pole of the left kidney.

As to the etiology of subphrenic abscess, there are many conflicting opinions in regard to the various sources of infection.

Fagge, Surgeon to Guy's Hospital, London, is of the opinion that eighty per cent of such cases are due to gastric and duodenal ulcers and doubts if any of them are really extraperitoneal.

Ullman and Levy state that from a review of cases since 1908 appendicitis as the cause of subphrenic abscess appears to assume the principle etiologic role.

Moynilhan says he formerly believed the commonest source of infection was the appendix, but remarks that recent statistics do not support this view.

Of eight hundred and ninety cases collected by Piquand, in 1908, twenty-eight per cent followed gastric and duodenal ulcer; twenty-one per cent appendicitis; fifteen per cent associated with the liver and biliary passages; six per cent with intestinal disease; three per cent with various other disorders.

Seventy-six of Barnard's cases show thirty-four per cent associated with gastric and duodenal ulcer; fifteen per cent appendicitis; seventeen per cent liver; the remainder due to cancer of the pancreas, pyosalpinx, splenic infarct, and gall stones.

The following table shows the starting point in a series of four hundred and fifty-seven cases:

	In Perutz's Series	In Maydl's Series	In Korte's Series
Stomach .....	67	35	9
Duodenum .....	3	8	1
Appendix .....	55	25	27
Liver and bile passages .....	17	20	2
Hydatid .....	5	17	3
Intestine .....	7	5	0
Pancreas .....	4	0	1
Spleen .....	4	0	5
Kidney .....	7	11	4
Ribs .....	1	3	2
Intrathoracic .....	9	9	4
Female Generative organs .....	6	0	0
Traumatic .....	8	6	0

Metastatic .....	5	11	0
Various and unknown..	11	11	2
Total .....	208	179	60

The discrepancy in the various opinions and series is quite manifest, probably as a result of the different clinics and hospitals where there cases were collected. At any rate, we can safely conclude that around fifty per cent of subphrenic abscesses, as a whole, have their origin from the stomach, duodenum, or appendix. The class of patients, locality and other circumstances, will regulate the preponderance of the appendix over the stomach and duodenal cases, and vice versa.

Case Report. The patient, a boy, aged five years, was admitted to the Sts. Mary and Elizabeth Hospital, August 19, 1921. Family history: father living and well at age of thirty-eight; mother living and well at thirty; no miscarriages. One sister died at nine months from pneumonia; one sister died at two years from multiple abscesses; one sister living at two years, has multiple furuncles.\* No history of tuberculosis, mental or nervous diseases; no nephritis. Wassermann on two of the children negative. On March 17, 1924, I saw the two remaining girls, aged two years, and eight months, respectively, and both were well. The older one recently had suppurative otitis media; no other illness.

Personal history: The patient had no diseases of childhood; was never ill in his life until the age of eighteen months, when he had round worms, which he passed after treatment, and was presumably salivated at that time from calomel. Three months later he began to lose his teeth from suppurative gingivitis (pyorrhea alveolaris) and finally, within a year, lost all his teeth. His mother states that the child was cutting two teeth when he died, February 20, 1922. At the age of three years had two large furuncles, one on the scalp and one on the anterior chest, sternal region, which healed in two or three weeks after incision.

Present illness: Child was taken abruptly ill five or six days before admission to hospital with agonizing pain in epigastrium, which was more or less continuous and unabated, with high fever and chilly sensations and profuse perspiration. No nausea nor vomiting; intestinal function regular, no constipation nor diarrhea. No sore throat, cough, nor history of a cold.

Examination: Skin and mucous membrane somewhat pale. Skin hot and moist with perspiration. Multiple furuncles on

\*This child died February, 1923, with multiple abscesses.



scalp, face and neck; none on the body. There was little or no pus present at that time, and the lesions were apparently undergoing healing. For three days prior to admission to hospital patient was seen in afternoon with temperature of 102 to 104 degrees F., respiration about 30, pulse 100 to 120. The leucocyte count ranged from 30,000 to 32,000, differential showing about ninety per cent polymorphonuclears, blood smears otherwise negative, hemoglobin 60 per cent. Urinalysis, negative; eyes, ears, nose and throat negative. Mouth: no teeth; had lost all teeth at two years and six months of age. Chest: heart negative save for rapid rate, good rhythm, fair volume to pulse. On inspection respiration was rapid, about thirty to the minute; left costal margin more or less immobile, right flaring freely. On palpation a distinct Hoover's sign noted, confirming the immobility of the left costal margin. Tactile fremitus decreased at base left lung, as well as breath sounds; no rales, egophony, nor pectoriloquy; little or no difference in the note at the bases on light and deep percussion. Abdomen: exquisite tenderness and rigidity on light and deep palpation in epigastrium to left of midline along left costal margin for three inches below costal margin. On percussion a tympanitic note was elicited, and tears would roll down the lad's cheeks, but no complaint or outcry would be made. However, upon inquiry he admitted it was very painful. Otherwise the abdomen was soft and flaccid; no distension. There was no tenderness over the appendix on superficial or deep palpation, nor at any other point save that mentioned. Deep and superficial reflexes, including pupillary, normal; no Kernig, Babinski, nor other pathological reflexes. Examination otherwise negative.

On admission to hospital a hurried roentgenogram of the chest and upper abdomen was made, with verbal report of negative findings. Leucocyte count: 29,800; differential, polymorphonuclear 87%, lymphocytes 11%, transitionals 2%. Blood culture not made. The patient was immediately prepared and taken to the operating room.

An incision four inches long was made in left epigastrium along left costal margin. The peritoneum was protected by salt sponges and a subphrenic abscess was found to left of midline and to left of falciform ligament; it was well forward on the diaphragm, about two inches from anterior abdominal wall, the left lobe of the liver behind, and to the inside of spleen, with stomach and interposed omentum lying below. There was a distinct sac about the size of a goose egg having no

connection other than the omental adhesions, which were easily separated, and the diaphragm above. The contents were evacuated, about six ounces of yellowish pus of the consistency and appearance of soft butter. The cavity was packed with a one-inch strip of iodoform gauze and a large fenestrated rubber tube inserted. Within twenty-four hours the temperature was normal and remained so for the next two days. Culture of the pus showed a pure growth of staphylococcus aureus.

Within a few days there was a recrudescence of the furuncles, and in addition a crop of new ones, one in the occipital region burrowing downward under the scalp and forming a pus pocket which was incised and drained, two or three ounces of thick creamy pus escaping. This was on the tenth day post-operative. Both scalp and abdominal incisions continued to drain profusely for several days, but under hot saline dressings they became fairly clean and drainage almost ceased.

Four weeks after admission (September 19, 1921), the patient was dismissed from hospital. He was then able to be about and take adequate nourishment, the scalp and abdominal incisions being practically healed. Six months later (February 20, 1922), the child died from multiple abscesses, general septicemia, exhaustion and inanition.

J. S. Meltzer, *New York Medical Journal*, June 24th, 1923, reports a right posterior subphrenic abscess complicating broncho-pneumonia in a child twenty-six months of age. The right pleura was explored for an empyema, and to his surprise little or no pus was found, but on digital examination a fluctuating mass was detected underneath the diaphragm. Upon close inspection he discovered in the diaphragm a small perforation, not larger than a pin head, leading into the subphrenic abscess which was drained and the child ultimately recovered. He states that the abscess was probably of lymphatic origin, which is in accordance with the findings of Ludwig and Schweigger-Seydel, and von Recklinghausen, of Liepsig.

Griefwald's Surgical Clinic, Leipzig, reported a puzzling case of subphrenic abscess. in 1889, for which no cause in the thorax or abdomen could be determined. The patient was a boy of seventeen who was treated by radical incision for paronychia. Nineteen days later there were the clinical picture and findings of subphrenic pleurisy, whereupon Helferich resected the ninth rib; but, he goes on to state, the presence of the spleen in the abscess cavity proved that the abscess was located below the diaphragm. The con-

nection, he says, is quite obscure, but perhaps there was an infaret of the spleen and we could assume that endocarditis was the missing link between the paranychia and the subphrenic abscess.

I regard the case reported as very interesting, because subphrenic abscesses are rare in children. Moreover, a left-sided subphrenic abscess is rarer than one on the right. And, furthermore, this abscess was rare because it did not follow or complicate broncho-pneumonia or appendicitis, which is usually the case in children, but was probably of focal origin.

I have found record of only one other case of subphrenic abscess which might be attributed to furunculosis. The patient was the first child of this family, a sister of the boy the subject of this report, aged twenty-two months, who as reported in the family history, died with multiple abscesses. The following notes from the bedside chart are interesting and tend to confirm our opinion. However, due to the fact that there was a right-sided empyema complicating this case, which was drained three or four weeks after drainage of the subphrenic abscess, the question might arise as to the possibility of the former being primary and the later developing from the empyema.

M. L. F., female, aged twenty-two months, admitted to Norton Infirmary July 10th, 1919. On July 12th "drainage subphrenic abscess, cheesy pus evacuated." July 16th "discharging boil on head dressed." July 17th "motile worm expelled from rectum." July 23d "furunculosis vaccine, 3 m." July 27th "temperature 104 degrees F., shortness of breath." and respiration rate not recorded. August 2d "boil on nose opened by Dr. Smith." August 10th dismissed from hospital, abdominal incision still draining, and many furuncles on head, extremities and body. Home one week and readmitted to hospital August 18th, 1919.

History from mother: M. L. had pneumonia at age of nine months and was all right after that apparently until about the first of July, 1919, when she was taken abruptly ill with high fever, chilly sensations profuse perspiration and agonizing pain in epigastrium. Apart from pneumonia, no other illness.

Notes from bedside chart continued: August 19th, 1919 "through-and-through drainage of right-sided empyema; more cheesy pus found in subphrenic wound." August 31st "drainage tube removed, morning temperature 98 degrees F., afternoon temperature 102 degrees F. September 13th again taken to operating room; afternoon temperature 103.2 degrees F." No record of operative proce-

dures. September 16th, "dressing changed by Dr. Smith; free purulent discharge from incision." September 19th "dismissed from hospital, temperature 102.4 degrees F., both incisions draining purulent material; presence of several furuncles."

Further history from mother: "The patient died about one month after leaving hospital, October 26th, 1919, at the age of two years and eleven days. Both incisions continued to drain until the end, and every few days four or five furuncles had to be incised and drained."

Ross has reviewed 3,391 consecutive cases of acute appendicitis, and among them found only thirty cases of subphrenic abscess. He notes that of 500 children less than fourteen years of age, who had been operated upon for appendicitis, there was only one case of subphrenic abscess.

Judd reports three cases of subphrenic abscess following focal infection. Ages of patients; twenty-two, twenty-three, and thirty-five years, all males. Blood: leucocytosis in all three cases, varying from 18,000 to 22,000. Roentgenoscopy: fixation of diaphragm with elevation in two cases; negative in one case. Duration: six, four, and two weeks. Results: two of the patients died from general sepsis and multiple abscesses of the liver; one recovered. Symptoms: in one case the trouble apparently followed an attack of grip one month previously; chills, fever, pain over left kidney with mass in left side and rigidity; rapid loss of weight. One case apparently followed multiple carbuncles, with sudden pain in right lumbar region and fever. One case followed drainage of abscess in loin and suprapubic cystostomy performed six weeks previously, with fever, pain, etc., after operation.

Lockwood reports one hundred cases of subphrenic abscess, and had only one patient under twenty years of age; this patient was eleven years old.

Treatment: Subphrenic abscesses may be opened in one of four ways:

(1) By incision through the anterior abdominal wall.

(2) By incision along the lower costal margin.

(3) By incision through the chest wall and diaphragm.

(4) By a combination of thoracic and abdominal incisions.

(1) Incision through the anterior wall is suited to those cases of large abscess which bulge forward in the epigastrium. These are, almost without exception, due to perforation of the stomach. It may be wise to make a counter opening into the abscess from the



loin in order to insure efficient drainage. In cases where the abscess is located in the left posterior intraperitoneal fossa, this combined method seems imperative. The cavity may, if thought desirable, be irrigated with hot saline solution.

(2) The incision along the costal margin is extended through all the muscles of the abdominal wall. The further deepening of this wound is accomplished with great care by blunt dissection with the finger until the limits of the abscess are reached. A small opening is then made into the cavity and gradually enlarged in the direction in which it is clear no harm can be done.

(3) The transpleural operation is the one most often employed. The method advised by Clute is very good. First make an incision two and a half to three inches in length along the center of the tenth rib in the mid-axillary line; then remove that portion of the rib and make an incision into the pleura parallel to the rib and in the center of its bed; suture the border of the incision in the parietal pleura to the diaphragm with a continuous catgut suture; now place sterile vaseline and a dry dressing over the wound for forty-eight to seventy-two hours. The next procedure is to make an incision into the diaphragm parallel to the one in the parietal pleura; the edges are retracted, and a finger inserted in the direction of the abscess will shortly disclose the presence of pus. A large rubber tube is then introduced and held in place by a suture through the skin and fascia.

Another method: The posterior transpleural thoracic route, as outlined by Fagge. Three inches of the rib are resected and the upper edge of the cut diaphragm is sutured to the upper margin of the incision through the parietal pleura and intercostals so as to shut off the pleura. Then the abscess may be freely incised and a tube inserted.

(4) A combination of the thoracic and abdominal incisions is sometimes an advantage, in that it secures a more certain drainage. The thoracic incision is extended to the abdomen and the cavity above the liver freely opened.

#### BIBLIOGRAPHY

- (1) Barnard, H. L., London City Hospital, Surgical Aspects of Subphrenic Abscess. *British Medical Journal*, 1908, vol. i, pp. 371-429.
- (2) Clute, Howard M., Boston City Hospital, Subphrenic Abscess. *Boston Medical & Surgical Journal*, November 16th, 1922, pp. 681-684.
- (3) Ross, George G., Subphrenic Abscess, the Result of Acute Inflammation of the Vermiform Appendix. *Journal of the A. M. A.*, 1911, lvii, 526-532.
- (4) Winslow, Randolph, Subphrenic Abscess. *Annals of Surgery*, December 16th, 1920.
- (5) Judd, E. S., Subdiaphragmatic Abscess, the *Journal-Lancet*, November 15th, 1915.
- (6) Lockwood, Ambrose L., Subdiaphragmatic Abscess. *Surgery, Gynecology and Obstetrics*, 1921, xxxiii, 502-506.
- (7) Piquand, G., Les Abscess. sous-phreniques. *Rev. d. Chir.*, 1909, xxxix, 156-179—373-393—812-831—502-506.

- (8) Perutz, F., Der Subphrenische Abscess. *Centralbl. f. d. Grenzgeb. a. med. u. Chir.*, 1905, viii, 129.
- (9) Moynihan, Sir Berkley, Subphrenic Abscess, "Abdominal Operations," 1918, vol. i, pp. 137-149.
- (10) Ullman and Levy, Subphrenic Abscess. *Surgery, Gynecology and Obstetrics*, December, 1920.
- (11) Fagge, Surgeon to Guy's Hospital, *The Lancet*, January 12th, 1921.

#### OCCIPUT POSTERIOR PERSISTENT.\*

By GAVIN FULTON, Louisville.

Because of the greatly increased infantile mortality and maternal morbidity occasioned by its processes, occiput posterior presentation becomes not only a source of great anxiety to the obstetrician, but may also tax his skill and judgment to the utmost.

It is estimated that the occiput is anterior in seventy to ninety per cent of cases, but what proportion of these were primarily posterior with ultimate anterior rotation is unknown. More careful and painstaking examination immediately before and after the beginning of labor would probably show an astonishingly large percentage of primary occiput posterior presentations.

All are agreed that the vast majority of these primary occipito posterior positions rotate anteriorly and are delivered spontaneously as L. O. A. A certain percentage, however do not rotate and retain the posterior position throughout the labor. These are known as persistent occipito posterior presentations, which, according to Harper in a recent article, should be classified as complications of occipito-posterior positions.

Notwithstanding the fact that, while the tendency in all posterior positions is toward anterior rotation and spontaneous delivery, every such case is a potential persistent posterior presentation. Therefore infantile mortality and damage to maternal soft tissues is increased or lessened in proportion to one's ability to recognize the presentation before or early in labor.

It must be remembered that early, before engagement of the presenting part, the best means of arriving at a diagnosis of position is through external palpation and auscultation. In R. O. P. the back of the fetus is felt on the right side of the mother, and the small parts may be palpated as small, rounded objects in the anterior portion of the abdomen at or above the umbilicus. In L. O. P. the findings are just the reverse. Auscultation discloses the fetal heart sound either in the right or left flank of the mother according to the side on which the occiput may lie. However, at times the fetal heart may be heard with greatest distinction in the median

\*Read before the Louisville Medico-Chirurgical Society.

line of the abdomen, and which may cause the erroneous diagnosis of L. O. A. This transmission of heart sound is due to the deflection of the advancing head, thus drawing the fetal chest nearer the anterior uterine wall. Any doubts upon this point are generally settled by the fact that the heart sound in this instance can be heard with equal distinctness in both places, that is the median line and right flank.

Vaginal examination in the early stages of labor before dilatation is completed is negative for information except when the occiput is posterior the obliterating cervix has a tendency to lie far backward and the presenting portion is almost beyond reach of the finger. Later when the second stage has begun and dilation is complete the sagittal suture lies in the oblique diameter, the posterior fontanelle is at the sacroiliac synchondrosis, and the anterior fontanelle is toward the iliopectineal eminence (right or left), according to presentation of the occiput.

It is at this time, when the cervix is dilated and the presenting part is in the mid-pelvis, that rotation anterior or posterior begins. The greater the flexion the better the chance of anterior rotation with spontaneous delivery. Conversely, the more the head is deflected away from the chest in its descent, the greater the probability of posterior rotation of the occiput into the hollow of the sacrum. Even after the occiput has rotated into the hollow of the sacrum, spontaneous delivery may occur with only slight injury to the maternal soft parts. And the mechanism is as follows:

The rotated head becomes more flexed and lengthened in its mento-occipital diameter so that the region in front of the large fontanelle impinges upon the lower border of the pubic arch, after which the occiput is slowly pushed over the perineum by the flexing movement; then as extension occurs the occiput falls backward and the face is delivered from under the symphysis.

From the foregoing it will be seen that the treatment of persistent R. O. P. should be: (a) preventive, and (b) active, according to conditions as they arise.

Preventive treatment consists of such measures as may be applied before engagement takes place. Thus, when the infant's back is lying in the maternal right flank, and the right lateral posture is the one assumed by the mother during rest, she should be advised to lie on the opposite side whenever possible and so through gravity direct the fetal body to the front, and in consequence thereof encourage engagement of the head in an anterior position; and, furthermore, according to Dr. Harper, in the article

already mentioned, it is sometimes advantageous to have the mother wear pads inside her support in the effort to hold the back of the fetus in this position when the mother is in the upright posture. Inasmuch as in the majority of posterior positions the occiput is directly to the right, it would seem that maternal posture may be an etiological factor as well as a means of correction.

With the body floated forward and engagement established, the back of the child fits into the concave anterior uterine wall, and as descent progresses anterior rotation is favored with resulting spontaneous delivery. When the head is in a posterior position and becomes arrested at the superior strait, the procedure indicated is version. Podalic version should then be performed and the breech delivered by manual extraction, provided, of course, there is no discrepancy between the size of the head and passage it must traverse.

It must be remembered that little or no rotation occurs until dilatation is nearly complete and the thin lower cervical segment begins to recede from the descending occiput. Until that time, then, there is no reason for intervention on part of the physician. When the head has reached the pelvic outlet and progress becomes arrested, or at least materially retarded because of partial or incomplete dilatation, active intervention should not be resorted to unless the patient's condition demands. If the patient's condition and resistance are satisfactory, a period of two hours should elapse. If after this time the head is still in the same position, one of the two procedures should be followed--in many instances both.

Complete manual dilatation accompanied by "ironing out" of the vagina and perineum should be accomplished under complete anesthesia. The patient should then be allowed to recover from the anesthetic and await renewed contractions. When this happens the anterior rotation occurs, delivery is spontaneous and uneventful as a rule. Even when rotation is posterior, if it be complete, further intervention is rarely necessary. If rotation is incomplete and the head is impeded in its progress so the occiput remains in the oblique posterior position, then the second procedure should be resorted to, viz., the application of forceps.

In some cases forceps are applied for the completion of rotation, either anterior or posterior as the case demands, and then removed, leaving nature to complete delivery. In others their function is both rotation and delivery by means of proper traction. When the application of forceps is decided upon for either purpose, it must be remembered that the adjustment is not the same as in L. O. A.



It will be recalled that in posterior positions the small fontanelle is pointed toward the sacro-iliac synchondrosis (right or left) and that downward, outward, upward traction would be of no avail and at the same time subject the maternal-soft parts to unnecessary traumatism.

The hand is introduced into the vagina and the lower fetal ear located; the anterior blade is then introduced in such manner as to parallel the sagittal suture with tip of blade toward face; the posterior blade is then applied to opposite side so as to encase the head laterally. When adjustment is completed it will be found that the handles are directed slightly to one side or the other. They should be drawn to the middle (toward the other side) after which rotation should be accomplished either by an upward swing around to 45 degrees so as to bring the small fontanelle into the median line posteriorly, or, which is preferable when favorable, a downward swing of 135 degrees so as to bring the occiput in L. O. A. When the latter procedure is accomplished it will be seen that the axis of the blades has been reversed and the tips are pointing posteriorly. Should delivery be contemplated by traction with forceps, the instrument must be then reapplied to accomplish this purpose.

It often happens that when the instruments are removed for the purpose of reapplication, the occiput slips backward and great difficulty in replacement is encountered. The procedure described by Dr. Seides will be found very satisfactory in this difficulty. The right blade of the reversed pair is removed and the left of the second pair placed in proper position, then the left blade of the inverted pair is removed and the right blade of the second pair properly placed. It will be found that the blades of the second pair of forceps do not lock readily and the handles will have to be gently moved about before adjustment can be made. With second forceps in position, traction is begun and continued as in an ordinary instrumental L. O. A. delivery.

In closing I would like to reiterate that persistent occipito-posterior position becomes a much less formidable problem when one keeps in mind the following points:

(1) Early diagnosis with preventive measures.

(2) Non-interference without definite indications.

(3) Version and breech extraction when head is arrested at superior strait.

(4) Expectant waiting until dilatation is complete and two hours have elapsed without progress, and

(5) Manual and instrumental rotation if necessary.

## DISCUSSION.

**Ben Carlos Frazier:** I have been greatly surprised in several instances, where no examination was made to determine the position prior to labor, at the ease with which babies were born in the occipito-posterior position. I have seen two such cases in the last year where no difficulty occurred in delivery. In other instances, however, manual dilatation and forceps have been used as suggested by Dr. Fulton. When forceps are employed the patient should be thoroughly anesthetized. With a small baby in the posterior position, the quickest method of delivery is by version although the application of forceps may be the safer plan.

In this connection I wish to mention an interesting case seen a few days ago, a woman who was in the hospital awaiting delivery. I received a message to come at once and reached the hospital within twenty minutes. The patient had been sitting in a chair thirty minutes previously, a severe pain occurred and her husband assisted her to bed. I delivered this woman quickly, without assistance, the baby weighing six and a half pounds. The position was occipito-posterior. Considerable difficulty was encountered in resuscitating the child. Within a few hours it seemed to be in normal condition; but twenty-four hours later it lapsed into partial coma, the symptoms resembling those of meningitis. For two or three days there has been difficulty in getting the baby to nurse. I presume there must have been an cerebral hemorrhage. What the ultimate outcome will be I do not know. The child shows some spastic movements of the hands, and often rolls the eyes like a spasm was imminent, but no convulsions have occurred. I mention this case as being of some interest in connection with obstetrical paper read by Dr. Fulton.

**C. Skinner:** In view of the known increase in infantile mortality, and the danger of extensive damage of the maternal soft tissues incident to delivery in persistent occipito-posterior positions, I would like to ask Dr. Fulton to tell us in closing what he thinks of the advisability of caesarean section for the termination of labor in such cases. Would this not be a safer procedure than version, forceps delivery, etc., and would he be willing to recommend it?

**J. Rowan Morrison:** I want to ask Dr. Fulton if in his experience a larger number of babies presenting in posterior positions have birth paralysis than those in anterior positions?

Dr. Frazier mentioned an important point, one in which I have been especially interested, i. e., that often times babies born precipitately are

apathetic and do not nurse well at first. This is probably due to slight cerebral hemorrhage. In such cases information of much value may be obtained by lumbar puncture as suggested by Dr. Sharp, of New York, in a paper read before the Jefferson County Medical Society last year. At the recent meeting of the American Congress of Internal Medicine in St. Louis some one read a paper advocating drainage of the cisterna magna in these cases after diagnosis by lumbar puncture, stating that the procedure had been followed with great benefit where cerebral hemorrhage had occurred.

**Gavin Fulton (Closing):** As to delivery by caesarean section in occipito-posterior positions: I do not believe this procedure would be justifiable in the absence of other valid indications. There must be evidence of maternal danger before anyone has the right to perform caesarean section. In occipito-posterior positions delivery should be accomplished by other means, manual dilatation, anterior or posterior rotation, version, etc., as stated in my paper.

Regarding lumbar puncture and drainage of the cisterna in suspected cerebral hemorrhage of the newborn: I have had no personal experience with either procedure. In certain cases, however, in competent hands such operations might be of benefit.

Dr. Bruce will doubtless recall having seen with me a case similar to the one related by Dr. Frazier, where the baby was apathetic and refused to nurse. In that case nothing was done and the result was entirely satisfactory. The baby is now twenty months old and in perfect health. Where there is severe dystocia I believe such infantile symptoms are often due to prolonged pressure rather than cerebral hemorrhage, and if left alone the child usually recovers. Differentiation between pressure effects and cerebral hemorrhage might be made by lumbar puncture, but I have never attempted it. Nor would I consider drainage of the cisterna in the absence of positively indicative evidence of the necessity for this procedure.

I agree with Dr. Frazier that spontaneous delivery often occurs in occipito-posterior positions. If the occiput rotates into the hollow of the sacrum spontaneous delivery occurs in the majority of cases. In the absence of such rotation, and especially where the position is persistently oblique, the baby is seldom born without intervention as stated in my paper.

An obstetrical accident happened three years ago which caused me considerable embarrassment. The patient was a primipara of twenty-two in labor. When I saw her dilatation was complete, position occipito-posterior oblique, and attempts at rotation were unsuccessful. In the hope of facilitating rotation and delivery the patient was given a small dose of pituitrin.

Powerful uterine contractions occurred, the occiput descended with a rush, and much to my amazement while trying to support the perineum, descent was so forceful and rapid that the occiput perforated the lateral vaginal wall and a living child was extracted through the opening thus created. The maternal damage was promptly repaired by suture, the woman recovered, and has remained well since.

Version should always be done when there is resistance from above. If dilatation is complete with the head fixed and no progress can be made, version is contraindicated and delivery then becomes an instrumental proposition.

I have observed no more birth paralyses in occipito-posterior than in anterior positions. Such cases occur where delivery is retarded and there is prologed pressure regardless of the position.

---

## ANALGESIA AND ANESTHESIA IN OBSTETRICS.\*

By WALKER B. GOSSETT, Louisville.

Eutocia, an easy, natural delivery. Eutocia should be the desire of every mother and the aim of every physician.

No doubt the extreme suffering of childbirth is due to our civilization and artificial refinement. Attempts to relieve the pains of labor date back to antiquity. Sir James Y. Simpson said: "The ancients appear also to have attempted to relieve pain attendant upon parturition by anesthetizing agents." In the trials of the sixteenth century we find many cases in which witches were prosecuted for attempting to abolish the pains of labor by charms and other means. One method that was practiced was to hold a sword before the patient, who was directed to look at it steadily in the same way that Latina is said to have held a palm branch and brought forth Apollo without suffering; an attempt at mesmerism in reality.

Another way employed was to hang the husband up in the next room by his feet till the labor was accomplished. This method today would no doubt be very unpopular.

James Y. Simpson was knighted by Queen Victoria after she had experienced painless childbirth.

In 1847 when Simpson introduced ether and chloroform into obstetrical practice, there was a storm of disapproval. In the diary of the Lewis and Clarke expedition date of August 26, 1805, we find the following: "One of the women who had been leading two of our pack horses, halted at a rivulet about a mile behind and sent on the two horses by a

---

\*Read before Jefferson County Medical Society.



female friend. On inquiring of Cameatwait the cause of her detention he answered, with apparent unconcern, that she had just stopped to lie in but would soon overtake us. In fact we were astonished to see her, in about an hour's time, come on with her new-born infant and pass us on her way to the camp, seemingly in perfect health. The wonderful facility with which Indian women give birth to their children would seem some benevolent gift of nature in exempting them from the pains a savage state would render doubly grievous."

Over thirty-five years ago Lusk warned us that: "As the nervous organization loses in the power of resistance as a result of higher civilization and artificial refinement, it becomes imperatively necessary for the physician to guard her from the dangers of excessive and too prolonged suffering."

Sir Humphrey Davy, in 1800, discovered the anesthetic properties of nitrous oxid, and suggested its employment in surgery. In 1818, Faraday showed that the inhalation of ether vapor produced anesthetic effects similar to those of nitrous oxid. Crawford W. Long, of Georgia, in 1842, used ether to produce anesthesia during surgical operations.

In January, 1847, Simpson first used ether to produce analgesia in obstetrics. Fleurene, in March of the same year, announced the anesthetic properties of chloroform, and Simpson, in November, read his paper entitled "Notice of a New Anesthetic Agent as a Substitute for Sulphuric Ether in Surgery and Midwifery."

There was now rapid development of chloroform anesthesia, while after the death of Wells, little use was made of nitrous oxid until after Edmund Andrews, in 1868, suggested its use with oxygen. Ten years later Paul Bert conducted exhaustive experiments to show the safety of nitrous oxid and oxygen as an anesthetic.

Following the birth of the late King Edward, chloroform became the fashion and analgesia was maintained for many hours in a large number of cases. Smith, in a letter to Simpson, states that he had used chloroform analgesia as long as twenty-eight and one-half hours. Simpson used it for over thirteen hours. Klikowitsch, of Petrograd, used nitrous oxid-oxygen analgesia in twenty-five obstetrical cases in 1880. He used eighty per cent nitrous oxid and twenty per cent oxygen and observed that three or four inhalations rendered the uterine contractions painless without clouding the consciousness. Now, gentlemen, note this, and it was in 1880: he reported that the uterine contractions were often stimulated and that in no case was there

any diminution in their frequency or strength.

The following year, 1881, Winchel, of Dresden, used nitrous oxid-oxygen analgesia in fifty cases, and in his textbook of Midwifery (translated by Edgar) makes the following statement: "Narcosis by means of laughing gas is not dangerous and may be discontinued at the will of the parturient woman; it mitigates the pain in proportion to the intelligence of the person, as stupid persons often withstand its influence for a long time before its favorable effect is felt. In most persons its inhalation produces a state of intoxication for a short time with a tendency to laughter. Women to whom it is not administered until the stage of expulsion, can seldom be induced to inhale it quietly, while, when it is administered in the first stage of labor, its beneficial action is at once felt and extends to the second stage. It is especially useful in primiparae."

No doubt owing to the cost, the impurity of the gas, and the crudeness of the apparatus, gas was discontinued, so this method was not developed in obstetrics until years later.

Dr. J. Clarence Webster, of Chicago, was one of the first in America, if not the first, to use nitrous oxid and oxygen in obstetrics. He began its use about seventeen years ago. He used gas in operative obstetrics when ether and chloroform were contraindicated, and gradually extended its use to all types of cases. (*Jour. A. M. A.* 1915, LXIV, 812).

Arthur Guedel, of Indianapolis, in 1910, advocated nitrous oxid-air analgesia during the second stage. (*Indianapolis Med. Jour.* Oct., 1911).

The first prolonged use in America was in July, 1913, when Drs. Lynch and Hoag confined the daughter of a Mr. Clark, the maker of a gas engine. Dr. Lynch says that Mr. Clark "sought, at his own risk, to try in his family the method which his demonstrators were teaching in dentistry." The analgesia was maintained for over five hours. Dr. Lynch was very enthusiastic over the results obtained and has since been a constant user of gas analgesia.

Like the majority of obstetricians, the essayist has employed all kinds of anesthetics in obstetrics. First, chloroform which I began to use twenty-seven years ago when starting in the practice of medicine. Ether has been employed less extensively. The use and dangers of these two drugs are too well known to require further comment. Danforth and Davis, (*A. M. A. Journal*, Vol. 81, No. 13, Sept. 29, 23) state in their paper the following: "We wish to place ourselves on record

as stating that, in our opinion, chloroform has today no place in obstetrical practice." They state that experimentally, it has been abundantly shown that definite degenerative changes occur in the young in utero, after intermittent and very light anesthesia, such as would be administered to a woman in the second stage of labor. The essayist wishes to place himself on record that during the perineal stage of the second stage of labor, chloroform has a distinct place in obstetrical practice, and from the very small amount given at this time, any degenerative changes are due to other causes. Are we to tell the country physician that because of the slight degenerative changes, if any, he must not use chloroform during the perineal stage? No doubt there has been too much used during the second stage of labor, but a few whiffs during the perineal stage will not do harm and is a "God-send" to the woman at that time. Sometimes I think we become too scientific for practical purposes.

The paper by Danforth and Davis is most excellent and goes farther into the subject of analgesia and anesthesia in obstetrics than the essayist has in this paper, therefore I would advise any one who is particularly interested in the subject to read their article.

The next method was the hypodermic use of morphine, hyoscine and cactine, a tablet made at that time by a St. Louis firm. Then I tried spinal anesthesia with a solution of cocaine in labor, and was the first to use this method in Louisville. Dr. J. B. Bullitt administered it for me in three cases at the old Louisville Medical College Hospital. It was thought at that time that at last we had a perfect analgesia in labor. After the injection there was absolutely no sensibility to pain; the uterine contractions were just as strong and as frequent, and the patient talked and laughed during the delivery. In these three cases no bad results were noticed, but reports came from the East that in a number of instances, spinal abscesses had developed from the puncture. That put a stop to our spinal injections of cocaine solution in obstetrical cases.

The so-called "Twilight Sleep" was given a "try-out." It came and passed away. At last came the suggestion of using nitrous oxid gas and oxygen in obstetrics. I do not know why we did not follow this plan years ago. The dentists had been using gas in their work for many years. It had also been used in surgical practice. In looking over some of my old records, I found a report that I made of my first four cases in which gas was used. This was in 1914. I believe they will be of

some interest and will quote these cases as reported at that time:

Case 1. The first time I had gas used was in the case of the wife of a physician. In several previous deliveries there had been trouble with the extension of the head, and instruments had to be used. Examination showed that the cervix was thoroughly dilated and the head presenting in the L. O. A. position. Prior to commencing the gas a dose of  $\frac{1}{2}$  c. c. pituitrin was administered. Waited until this began to act, then the gas was started. The head descended normally. When it had reached the perineum the quantity of gas was increased, the head was delivered immediately and the gas was withdrawn. The woman was semi-conscious during the entire time, and after birth of the head was told to "bear down" and no difficulty whatever was experienced in delivering the shoulders. She had previously given birth to several children and remarked this was the easiest and most satisfactory labor she had experienced.

Case 2. An occipito-posterior position, and delivery was instrumentally completed. The labor was very difficult and gas was given to complete anesthesia. When the head was born, in a few seconds the patient was sufficiently conscious to "bear down" and thus assist in the delivery of the shoulders. In this case I gave three doses of pituitrin  $\frac{1}{2}$  c. c. each.

Case 3. Was a primipara, nineteen years of age. Gas was started when the cervix was about three-fourths dilated, the second stage lasting one hour. Delivery was easily accomplished and when the patient was returned to her room she expressed herself as "feeling fine" and said nothing hurt her.

Case 4. A woman weighing two hundred and sixty-five pounds, thirty-nine years of age and a primipara; a consultation case. Began gas when the cervix was thoroughly dilated. Gas was given for some time but the anesthetist later changed to ether. Am not aware of his reason for so doing. The presentation was L. O. A. but one of the most difficult and tedious labors I have ever handled. No progress could be made. Instrumental delivery. The other physician and myself worked for hours until we were practically exhausted. Several doses of pituitrin  $\frac{1}{2}$  c. c. each were administered but seemed to have little effect.

After reporting these cases, I made the following statement concerning gas at that time: "When I began the use of nitrous oxid gas in labor, a physician friend of mine suggested that I procure a portable apparatus to be added to my obstetrical outfit and administer the gas myself, or have a nurse do



so, but I declined as I did not propose to be anesthetist and obstetrician in the same case. I do not want any one to give gas for me except an experienced anesthetist, as I would not feel safe otherwise." Gentlemen, I have the same opinion today as I had then. Quoting also from my old report "I can see absolutely no danger in the use of nitrous oxid oxygen gas in obstetrics. I do not see how it can possibly injure the mother or baby, if the anesthetist understands his business. Of course if too much gas is given, to the exclusion of oxygen, the patient may be overcome and this might have some deleterious effect upon the baby; but if a man understands his apparatus and knows how to administer the gas in proper proportion with the oxygen, there is no reason for the patient being overcome. In nitrous oxid oxygen gas, I believe we have almost a perfect method for inducing analgesia and anesthesia in labor cases."

Gentlemen, after some years have passed and gas has become more universally used, I am still of the same opinion that nitrous oxid-oxygen gas is undoubtedly the safest and best method of inducing analgesia and anesthesia in obstetrics.

In the use of gas the physician produces analgesia during the uterine contractions without interfering in any way with the normal mechanism of labor. The expulsive efforts are not minimized and labor is not retarded, the uterine force acts just the same and the patient is able to assist with the abdominal force much better and stronger, as the "bearing down" does not increase her suffering.

Guedel, who has had as much experience in the use of gas as any one in this country, emphasizes that: "Under the proper administration of nitrous oxid in labor, *the patient is not exhausted mentally or physically*. The general postpartum condition is better than in cases delivered without anesthesia or with the anesthetic applied during the last few minutes of labor, as is the common custom with chloroform and ether. The observer is impressed with the vigorous physical and mental postpartum condition of nitrous oxide patients. They display little or none of the usual depleted appearance of the woman having labored without analgesia. A notable result of this protection against exhaustion of the mother and her freedom from blood and tissue changes is manifested in the early appearance of breast milk of good quality. Following delivery some mothers are wide awake and talkative, others show a normal tendency to sleep. The early puerperium is pleasant, the mother requiring comparatively little attention. So constant is this that it is

noticed and appreciated by the obstetrical nurse. There is actual shortening of the convalescent period."

My method is to begin the administration of nitrous oxid toward the end of the first stage of labor, when the cervix is about two-thirds or three-fourths dilated. As to the technique of administration, will leave that to be discussed by the anesthetists.

Since returning to Louisville in April, 1923, I have had gas administered in eighteen cases, averaging from twenty minutes to four hours.

In conclusion, I wish to reiterate that I am of the opinion gas as an analgesic and anesthetic meets all the requirements of normal and operative labor, in a practical, ideal manner. It is ideal to control uterine and abdominal contraction following the administration of pituitrin. I have referred freely to the work of Davis on "Painless Childbirth."

### DISCUSSION.

**W. Hamilton Long:** I appreciate being called upon to open the discussion of Dr. Gossett's most excellent paper. The subject of analgesia and anesthesia in obstetrics is interesting from many standpoints. Probably labor is the only natural physiological functional process that is characterized or attended by pain. Even among primitive and savage races, and also among the lower animals, childbirth is attended by more or less pain. History shows, however, that primitive people suffered less than have those in more recent times. Certain it is that modern methods of living, the so-called advanced civilization, with the thin veneer of culture and refinement, have had a tendency to turn labor from a physiological into a pathological process. This is one of the prices modern women have had to pay for the so-called ultra-civilization.

Dr. Gossett touched upon the history of the efforts to reduce and limit the pain incident to labor in a manner both interesting and romantic. It is interesting to note that the early efforts to relieve or prevent the pain of labor were met with opposition in the name of religious and Biblical authority based upon the superstitious belief that it was interfering with the edict of divine providence that "in pain and travail shall ye bring forth young."

I ran across something new to me in the October, 1923, issue of the Anesthesia Supplement, American Journal of Surgery, page 111, an article by House, of Ferris, Texas. His idea is to get away from the giving of morphine in obstetrical cases. He says: "It is my individual opinion that morphine inhibited the progress of scopolamin anesthesia in obstetrics. I convinced myself that morphine was absolutely unnecessary and was, furthermore, contraindicated when

combined with scopolamin for use in obstetrics. He then described what he has named the Florence-Rosser method devised by himself. "When dilation is manifested I administer scopolamin gr. 1-130 plus apomorphine gr. 1-50 to 1-60. If pains are fast I wait fifteen minutes, if pains are slow I wait twenty or thirty minutes to inject scopolamin gr. 1-200. In twenty minutes absorption should be complete, and more so in thirty minutes, then administer chloroform, which was selected after a careful comparison with gas and ether. I have the patient count after me, slowly, and in a loud voice, to divert her mind from hallucinations until she can no longer count. The chloroform quickly produces unconsciousness in such a patient, and its use is then discontinued. When the chloroform is removed, the patient quickly passes into the stage called amnesia, and the manifestations of amnesia can only be estimated from experience. If

decide after thirty minutes that the stage of amnesia is not satisfactory, I again administer chloroform and again invite the patient to count after me. The number she reaches tells me accurately the condition of her mind and guides the selection of my next dose of scopolamin. I make scopolamin and chloroform equal partners; both can do the same work, but each one can do some part of the work more satisfactorily than the other. It is difficult and slow and requires large doses of scopolamin alone to produce unconsciousness, but it is very easy for scopolamin to hold the cerebrum depressed when the synapses are contracted by chloroform; furthermore, the smaller amount of scopolamin you are required to give in obstetrics, the less trouble you are likely to invite. Chloroform is condemned by northern physicians, for they maintain it destroys the internal cells of the liver. The small amount of chloroform required, and the intervals between its use, makes it a small issue to discuss. Investigation has shown these two drugs are similar in their effect upon the nervous system."

We know that scopolamin does not always produce depression, it sometimes produces cerebral excitement. One of the difficulties with twilight sleep was that it worked principally on the basis of producing amnesia which was often incomplete, the patient was sometimes wild and raving temporarily and had to be restrained, but she had no memory of it afterward. For that reason the method seemed satisfactory to the patient. I believe with Crile that this sub-conscious suffering of sub-conscious delirium must have some deleterious effect upon the brain and the brain cells just as conscious delirium has. To my mind it is far from a satisfactory picture, the woman giving all the symptoms of being in pain, not only the ordinary pain incident to labor, but exaggerated by the de-

lirium present. The condition is certainly not ideal nor is it satisfactory to the anesthetist or obstetrician.

Twilight sleep was modified in many ways by various users who adopted the alkaloidal control of labor pains. They did not take into consideration what the Frieberg technique of twilight sleep demanded. It demanded the great element of suggestion, the psychic effect, and hypnosis. The semi-darkened room, the somber toned walls, blindfolding the eyes, etc., were entirely lost sight of. It became simply a question of drugging the patient with morphine and scopolamin until she was in a semi-conscious condition, it may be amnesia, probably analgesia.

Chloroform will undoubtedly remain popular in obstetrics for some time to come in this section of the country at least, for use in the second stage of labor, especially the perineal stage. Like Dr. Gossett I very much doubt whether any material damage is done thereby. It was my practice to give chloroform, until about two years ago, through the second stage of labor including the perineal stage. I believe it has been definitely shown, however, that degenerative changes may occur in the baby as well as the mother if chloroform is given almost ad libitum for ten or fifteen hours. We know that chloroform does produce changes in the liver cells. I believe ether is safer than chloroform if it has to be continued over a period longer than an hour or two.

The essayist states that he was the first to use nitrous oxid gas in Louisville in the conduct of normal labor. I cheerfully yield to him what I had formerly thought was a feather in my own cap. He says he began using gas in 1914 as an analgesic in normal labor. My first administration of gas as an analgesic in normal labor was after hearing Guedel's paper in 1915. Before then, however, I did use it as an anesthetic in instrumental deliveries, caesarean sections, and many other obstetrical complications.

As to the effect of nitrous oxid gas in obstetrics: We can not say it is ideal in all cases and our methods are being constantly changed or modified. I believe I can say with the utmost truth that in sixty per cent of cases nitrous oxid gas is almost ideal, that it more nearly approaches the ideal than anything else for analgesia in normal labor over the period including the second stage and if desired the latter part of the first stage. I think most obstetricians advocate that the patient walk about at intervals during the first stage. In thirty-five per cent we will say, it is very satisfactory, and in about five per cent it is a total failure. In the later type of cases that I have had it proved a failure because instead of producing analgesia it produced wild raving delirium and noth-



ing else. This result was probably due to some inherent individual peculiarity. It is well known that some people can not take nitrous oxid gas safely. In the cases mentioned where gas was a total failure, nothing could be accomplished in the way of producing analgesia, and the administration had to be continued to complete anesthesia which of course is never desirable in obstetrics.

There are two techniques of gas administration in obstetrical cases: First is individual pain administration; second continuous administration. By individual pain administration is meant a few inhalations at the first inception of a pain, the patient being asked to let us know when she feels the pain starting. She is then instructed to take three or four deep breaths of nitrous oxid mixture, which is immediately absorbed by the air cells in the lung, and also to "bear down" and add her own voluntary muscular assistance to normal contraction of the uterus during the labor pains. This method has the greatest value because the patient is not rendered unconscious, she is merely analgesic, enough of the gas is absorbed in the lung to obtund her sensibility during each labor pain. Under these circumstances she is better able to utilize her voluntary efforts to facilitating delivery. The continuous method of administration contemplates keeping the patient in a dazed and hazy condition during which she can be aroused and respond intelligently to questions or follow orders which may be given her, at the same time in a dreamy condition from which she frequently emerges with total amnesia but remembering the dreams she has had.

As to the danger to the unborn child from gas administration: That is a very interesting question which can not be discussed in detail. Every time we see a baby born and there is delay in getting respiration established, or slight failure of resuscitation after total respiratory failure, we immediately begin to wonder whether gas should be blamed. The consensus of opinion is that gas properly given throughout any length of time, be it long or short, has no deleterious effect upon the child. In my own experience I have seen serious delay of animation only once or twice after gas administration in obstetrics. I have certainly seen it just as frequently when other anesthetics or analgesics were used. If the gas is not so concentrated as to render the mother cyanotic there is nothing to fear; even if she becomes a little cyanotic during any pain gas may not be responsible; cyanosis may be caused by the patient holding her breath for a prolonged period. Guedel has shown that during uterine contraction there is no interchange of blood between the fetus and the placenta, so that slight cyanosis at any time need cause no fear, because the moment the pain be-

gins to subside the patient is always given a little pure oxygen.

**H. A. Davidson:** I think we may still say there is no ideal analgesic or anesthetic in obstetrics and the more experience we have with the various agents the more are we inclined to believe that. Obstetrical anesthesia is parallel with surgical anesthesia. We used chloroform in surgery, and soon used it in obstetrics; we found that ether was better than chloroform in surgery, and we then used it in obstetrics; it was later found that nitrous oxid gas and oxygen was safer than ether in surgery, and we began using it in obstetrics; we experimented with cocaine, stovaine, novocaine and spinal anesthesia in surgery, and afterward used these agents in obstetrics; we used twilight sleep in surgery and are using it today, and later used it in obstetrics; we are using now, and I am sorry the essayist did not mention it, ethylene gas in surgery, and doubtless it will later be used in obstetrical practice. Some observers claim ethylene gas is the ideal analgesic and anesthetic at the present time. The more experience we have with analgesia and anesthesia the more clearly do we come to the conclusion that there is no ideal anesthetic in either surgery or obstetrics.

I think the anesthetic must be suited to the individual case. In a difficult forceps delivery where it is known anesthesia must be prolonged, one would not think of using chloroform. It would be much safer to use ether. Where it is desired merely to relieve pain slightly throughout a long period, without doing too much damage to mother or child, I think gas-oxygen is the safest agent to use. If the patient is very nervous and has a prolonged first stage, as some of them do, extending over a period of sixteen to eighteen hours, then the so-called twilight sleep should be used. I heard a discussion on this subject before the American Medical Association in June last at San Francisco, and you would be surprised at the large number of men, the best obstetricians in this country, who are still using twilight sleep satisfactorily. It is being used in thousands of cases. You would also be surprised at the number of men who are using ether and claim it is the proper thing. There were some men from the south who are still using chloroform. There were a few who said spinal anesthesia was the best method to use. Among the most prominent surgeons and obstetricians there is still great divergence of opinion as to the ideal method of producing analgesia or anesthesia. That is the reason I prefaced my remarks with the statement that there is no ideal analgesic or anesthetic in obstetrics.

I want to make this statement, one of the points that was emphasized at the San Fran-

cisco meeting, that the most dangerous anesthetics in obstetrics is chloroform. If analgesia or anesthesia is desired over a long period of time, do not use chloroform. Ether is safer, and sometimes gas-oxygen will do the work better and is to be preferred.

I do not believe cocaine, stovaine, novocaine and such derivatives used for spinal anesthesia will ever become popular because there is always some danger of injury to the spinal structures. The ideal analgesic or anesthetic is yet to come; it may be ethylene gas. This may be an improvement on nitrous oxid gas. Of course we have had improvements from year to year, but no man can yet say that we have now an ideal analgesic or anesthetic, because tomorrow someone may discover another and better one. We should all keep open minds and use what we consider the safest analgesic or anesthetic in each individual case.

**Alex Nettleroth:** Dr. Gossett has given us a very interesting paper. As regards nitrous oxid gas and oxygen in obstetrics: There is no doubt in cases where labor is likely to be prolonged gas is the only agent to be used. However, where labor can be terminated within a short time, say one to three hours, and where there is no anatomic obstruction to delivery, my preference is for chloroform. A few whiffs of chloroform at intervals will afford relief throughout the labor. Only a few drops of chloroform need be given at a time, and it should not be administered continuously. I have found in cases of reasonably short duration, after the cervix was well dilated, chloroform had even better effect than nitrous oxid gas. When labor is likely to be unusually prolonged of course gas is preferable and should be the anesthetic of choice.

**W. B. Gossett (Closing):** In my paper I did not claim that nitrous oxid gas was ideal in obstetrical practice as an analgesic and anesthetic. I said it more nearly approached the ideal than any other method in use at the present time.

Even when the cervix is two-thirds or three-quarters dilated, especially in primipara, no one can possibly foretell how quickly labor will be completed. It may be fifteen minutes or many hours. No one can tell just how long the second stage of labor may last.

I stated in the paper that the administration of gas should not be started until the cervix was three-quarters dilated. When the perineal stage is reached gas may be increased until complete anesthesia is produced if desired just as is done with chloroform. After the head is extruded no difficulty is experienced in delivering the shoulders with the patient in analgesia as she is sufficiently conscious to "bear down" and thus assist in completing the labor. Some times

after the administration of chloroform nausea and vomiting are distressing; these do not occur following the use of gas and oxygen. The patient is much stronger and feels better after labor when gas is used. I still use chloroform occasionally in the perineal stage and have seen no complications or ill-effects.

In primipara the probable duration of labor can not be estimated with any degree of accuracy. The baby may be born within a few minutes, or labor may be prolonged many hours. I recall one instance that occurred recently where a primipara was delivered within fifteen minutes after full dilatation, the anesthetist reached the delivery room merely in time to give the patient a few whiffs of chloroform during the perineal stage and a moment later the baby was born. In other cases labor has been completed within half an hour after full dilatation. As we all know, however, in primipara labor is usually prolonged.

When chloroform is given more or less continuously for two to four hours tissue changes in utero are certain to occur; when given for shorter periods there may be no tissue changes. As stated in the paper, during the perineal stage of labor chloroform has a distinct place in obstetrical practice, and as only a small quantity is given at that time if degenerative tissue changes occur they must be due to other causes.

After completing labor under gas analgesia the patient expresses herself as "feeling fine" when she leaves the delivery room and is usually hungry; she wants something to eat as soon as she is returned to bed.

I want to think the gentlemen for their liberal discussion of my paper.

---

One hour and fifteen minutes after swallowing an ounce of camphor liniment mistakenly administered for castor oil by an attendant, a patient of Milton C. Lang, Baltimore, was found in a convulsion of epileptiform character, which lasted six minutes. He then recovered consciousness, and complained of weakness, inability to stand up, nausea, nervousness, severe headache and pain in the eyes. His condition rapidly grew worse, and he became semidelirious. Although no definite convulsions were noted, there were frequent twitching movements of the lower extremities. The patient was restless, his skin was pale and clammy, the pulse regular but rapid; the blood pressure was 120 systolic, and 75 diastolic. The respiration were loud, rapid and shallow, but were frequently interrupted by deep gasps. Therapy consisted of gastric lavage. In the morning the patient was much better, complaining only of slight nausea.



## TETANY.\*

By VIRGIL E. SIMPSON, Louisville.

That tetany as a clinical syndrome is not of infrequent occurrence and that its recognition is of too infrequent accomplishment constitute the explanation, if not the excuse for its presentation by the author.

The severe form exhibiting muscular contractions of an intermittent tonic type resulting in classic attitudes of the extremities, with increased irritability of the sensory nervous system and exaggerated response of the motor nerves to galvanism may not escape its proper diagnostic label. But when only one side of the body is involved or when markedly disturbed mental conditions cloud the picture or if it occurs during gestation or when seen in infants or if the spasms appear in the musculature of the digestive tract, the urogenital apparatus or even the cardiac muscle, careful study must be made if errors are to be reduced to a minimum.

If the symptoms, thus briefly reviewed, appear complex a close study will show the causative factors to be even more so. It may occur in epidemic form or as a sporadic development and yet again to be found endemically, it may be either acute or chronic, manifest or latent; it occurs at all ages and in both sexes; it may assume seasonal variations even showing epidemic tendencies in certain months. The parathyroids are most often charged as the culprits, yet the thymus has not escaped suspicion, too little sedative ones, too much irritating ones, have alike been held as suspects; acidosis has had its votaries and alkalosis its partisans. Forced respiration, diet, occupation, all have been under suspicion. Each have had their entrances and their exits and in their time played important parts.

And yet, withal, tetany is an old malady, accounts having appeared in the literature more than one hundred years ago though the name was suggested in 1852 by Corvisart, a French writer. The Germans, with characteristic repotting, have claimed priority but the earliest authentic account came from the pen of Clarke, an Englishman.

It was not, however, until 1880 that the parathyroids were discovered by Sandstrom, a Swede, and for a decade thereafter no casual relationship was suspected between disease or removal of these glands and tetany. Gradually facts were established and now one may say with definiteness that removal of the thyroid results in myxedema, removal of the parathyroids causes tetany while the removal of both terminates in both myxedema

and tetany. This knowledge made a new technic of thyroidectomy imperative, the removal of even three of four parathyroids being sufficient to cause tetany. Halstead in 1888 demonstrated that even removal of the glands was not necessary to cause tetany since the same result, but of a chronic type, could be produced by ligation of vessels of both superior parathyroids with the ensuing atrophy of the glands. The internal parathyroids were not deprived of their circulation or acute tetany and death would have ensued. These facts established it seemed settled that tetany depended upon disease or removal of the parathyroid glands but further study has seemed to have established the fact that certain forms depend upon a metabolic disturbance in the direction of either alkalosis or acidosis while others show calcium deficiency only.

This brief summary of our knowledge of causative factors and clinical manifestations is sufficient to establish the complexity of the condition and its claim to being considered a strange disease.

The symptoms and signs of tetany are, at first contact, almost bewildering in their multiplicity. But a classification of the forms of tetany from an etiological standpoint as suggested by Frank-Hochwart in 1897 simplifies the matter not a little. He grouped tetany under the heads of: (1) Idiopathic tetany which includes the tetany of workmen and the epidemic-endemic form. (2) Tetany in diseases of the digestive system. (3) Tetany of infectious diseases. (4) Tetany of intoxications. (5) Tetany associated with maternity. (6) Tetany strumipriva following operations on the thyroid. (7) Tetany of childhood.

If to this grouping is added the information that most of the manifestations of tetany pertain to the nervous system and in the direction of increased irritability the simplification of the clinical study of the disease is yet further carried forward.

The hyperactivity of the nervous system in tetany involves the sensory, the autonomic and the motor apparatus.

Of these such as involve the sensory apparatus are of little diagnostic importance. The irritability of the nerves may be elicited by both the faradic and galvanic currents. This hyperexcitability as shown by electrical stimulation is referred to as "Hoffmann's phenomenon," and may be demonstrated in tetany subjects both before and after an attack of manifest tetany. The nerves of special sense seem to participate in the general increased excitability but their demonstration

\*Read before the Jefferson County Medical Society.

is both difficult and doubtful and definite statements are seldom made.

Hyperirritability of the autonomic system can be more easily demonstrated and hence of more value clinically.

The injection of pilocarpine results in exaggerated response in the subject of tetany. Marked lachrymation, salivary flow and sweating are observed usually while vasodilation of cutaneous blood vessels cutis marmorata, increase in gastric juice and increased intestinal peristalsis even to diarrhoea are not uncommon.

The response to suprarenal gland injections is likewise abnormal. Marked constriction of cutaneous blood vessels with resultant pallor, an unduly rapid rise in blood pressure and acceleration of heart rate occur. Palpitation, a feeling described as "inward tremor" and an aggravation of the usual motor irritability of tetany are generally observed.

The sympathetic nervous system often presents a number of evidences of increased excitability of spontaneous occurrence. Dermatographism is a rather common symptom; abnormal variations in emotional flushings and angioneurotic edema of the hands, feet and face occur. This latter condition is an interesting phenomenon. One or more fingers or toes may suddenly become swollen, edematous, painful, remain in this condition for a few hours, and subside, leaving no trace of the attack. If the angiospasm occurs in the mucous membranes capillary hemorrhage is sometimes an annoying even dangerous sequence. "Dead fingers" are not always a part of a cardiorenal syndrome but may be a definite tetany symptom.

Nystagmus, accommodation spasm, pupillary changes, strabismus and conjugate deviation are evidences of involvement of the intrinsic eye muscles while widening of the palpebral fissure, prominence of the eye and lack of coordination of the upper lids, with the vertical rotation of the ball implicate the extrinsic muscles.

Laryngospasm, cardiospasm and pylorospasm are not uncommon evidences of tetany in infants. The former is sometimes rapidly fatal while pylorospasm may be slowly so. Enterospasm is common in infantile tetany as well as a frequent adult symptom. A peculiarity of infantile tetany is that it is rather uncommon during the summer months when diarrhoeas and dysenteries are prevalent. Enuresis may be due to tetany spasm of the detruser muscle of the urinary bladder while retention may occur if the sphincter be involved. Not all asthmatic attacks are of protein sensitization origin since spasm of the

bronchial muscles may and does occur in tetany, both children and adults.

Rapid transformation of the differential white cell count of the blood are suggestive of excitability of the vegetative nervous system. The polymorphonuclears are reduced with a relative lymphocytosis. These changes may be due to an accompanying status thymolympathicus. The red cells have been reported increased during the attacks but I have never been able to confirm this.

Disturbance of the heart regulating mechanism does exist rather frequently. The disturbance is usually in the direction of a slight acceleration and is of a remittent type. This is more common in infantile tetany than that of adults. The injection of pituitary solution, antithyroidin, etc., which cause no rise of temperature in healthy subjects will usually cause rise in acute tetany subjects.

The trophic changes in chronic tetany are confined largely to changes in those structures derived from the ectoderm. The nails may become brittle, rough and necrotic and complete loss of one or more may occur. Alopecia has occasionally been reported; it is usually temporary, the hair returning after the tetany has ceased to exist.

Tetany subjects are very prone to develop cataracts. It may develop in any of the forms of tetany and appears at any age having been observed by Peters in a child of three years. It may be either central or perinuclear and is due to toxemia though spasm of the ciliary muscle has been believed by some to be the determining factor.

Defective calcification of the dentin and hypoplasia of the enamel are the most constant trophic changes in the teeth. The enamel changes consist of shallow grooves, often in horizontal rows on the anterior surface. Their presence indicate tetany in the individual in early childhood.

By far the largest, most constant and most characteristic evidences of tetany hyperirritability of the nervous system is observed in the motor apparatus.

The increased responsiveness of motor nerves to the galvanic current has long been recognized as a most valuable diagnostic sign of tetany and is called Erb's phenomenon. A muscle of a normal adult will not contract on kathodal closure under 0.7 amperage of the galvanic current. If then kathodal closure contraction is seen below 0.7 amperes a state of increased excitability exists. Kathodal opening contraction is obtained in the normal adult only when 5 amperes or more is used.

When this contraction is obtained with less than 5 amperes increased excitability ob-



tains. Further, it is known that in the normal adult the strength of anodal opening contractions is less than the anodal closure while in tetany the opening contractions equal or exceed the closure ones. Tests with the faradic current are not uniformly characteristic enough for diagnostic purposes.

Either the ulnar or median nerve may be used in the adult but in infants the perineal is preferable since the fingers are rarely still. The current required to affect the facial nerve are generally strong enough to be painful.

An increased responsiveness of motor nerves to mechanical stimulus is a fairly constant phenomenon in tetany. These contractions may be elicited by percussion over a nerve trunk, by compression and contraction.

Percussion over the facial nerve just in front of the ear, below the zygoma will cause sudden contraction of some or all of the facial muscles of that side. This is called in the literature Chvostek's sign or the facial phenomenon. It is not always present even in manifest tetany and is more frequently present in the tetany of adults than of children. It is also more frequently present in chronic tetany than in the acute form.

Another of these contractions is elicited by the application of a ligature tightly around the arm above the elbow or by making pressure in the bicipital groove with the fingers. A blood pressure cuff answers the purpose admirably. The pressure is run up to about 175 and in from 3 to 4 minutes a tonic spasm of the hand and finger muscles results in what is called the obstetrical hand together with flexion of the elbow. The fingers are nearly straight and are slightly flexed at the metacarpo-phalangeal joints and are held closely together thus forming a cone with the thumb abducted under them or under the palm. This is called the "obstetrical hand," or Trousseau's phenomenon. The contracture takes place gradually and occasionally is observed in the opposite hand simultaneously with the contracture of the hand to which the pressure has been applied.

Another of these phenomena induced by a mechanical stimulus is induced by forcible abduction of the arm holding the elbow in full extension thus putting the brachial plexus on the stretch. The hand will assume a position similar to that caused by stimulation of the ulnar nerve. The muscles become hard, even board-like. This is called the arm phenomenon of Pool. Forcible flexion of the thigh on the abdomen with the knee extended will result in extreme plantar flexion with the toes turned toward the soles. Dorsal flexion at the ankle may occur instead of supination of the foot and plantar flexion.

The degree of all these contractures varies from a violent spasm to one so mild as to be noted on close observation only. Finally, there are a number of tonic contractions which appear spontaneously, that is, independent of electrical or mechanical stimuli.

In a classical attack of tetany chronic spasms of the muscles of the upper extremities are most constantly present. The obstetrical hand or Trousseau's phenomenon or the *main de l'accoucheur* as he termed it, is usually observed. Its spontaneous occurrence without mechanical stimulus is here referred to. Many variations of the obstetrical hand are observed; the hand may be tightly clenched pressing the nails into the skin of the palm (*main de hemiplegia*); it may show contractions of the interossei and lumbricalis (*main en griffe*) or the fingers may be extended with the thumb lying parallel (*main en presse papier*). The wrist may be markedly flexed on the forearm. There is usually no contraction of the muscles at or above the elbow though the forearm commonly is found in a position midway between supination and pronation.

The lower extremities are less often involved in adults but in children the upper and lower extremities are generally concurrently involved. Plantar flexion of the feet with the soles turned inward—talipes equinovarus—and with strongly flexed toes constitutes the usual position. A valgus position occasionally is seen. It is the group of muscles supplied by the tibial nerves that are involved in the leg and feet while those supplied by the ulnar nerve predominate in the upper extremities. The knees are rarely flexed, much less frequently than the elbow, and the thighs are abducted. Only rarely are the muscles of the shoulders and hips involved.

The muscles of the abdomen and the chest may be so contracted as to be easily seen and felt. If the muscles of the neck are involved the head is drawn backward, even opisthotonos or emprostotonos obtaining. Asphyxiation is a possibility. A position of torticollis is seen when there is unilateral contraction of the neck muscles.

Spasms of the glottis or laryngospasm is of frequent occurrence in the tetany of childhood. This symptom may be present in rickets and the question often arises as to whether the laryngospasm is due to tetany or to the rickets. Gastro and enterospasm as well as spasm of the oesophagus may be present, all or in part.

Occasionally a general spasm may be observed which produces a picture somewhat

similar to epilepsy. More rarely is a hemi-tetany seen.

The contractions are tonic in character and the rigidity may last in a single attack a period varying from ten minutes to several hours. Fibrillary twitchings have been observed and when occurring in patients with marked weakness of the musculature, careful study is necessary to exclude poliomyelitis and encephalitis. Habit spasms and tie should offer no difficulty in differentiation from tetany as they are abrupt, quick and short convulsive movements while the contractions of tetany are tonic always, and persistent.

The "tetany face" of children is an interesting phenomenon. It is due to a low degree of tonic spasm of the facial muscles which causes the care-free, happy expression of childhood to give place to one of care or introspection. It is scarcely an expression of anxiety but the wrinkled forehead, the elevated eyebrows, the contraction on either side of the nose and the carp-like mouth give it rather a reflective appearance. The tetany face appears rather early and may be considered as one of the warning signals of a manifest tetany development.

In conclusion it may be said that given a typical galvanic response of the motor nerves, an exaggerated reaction to mechanical stimuli, a characteristic group of tonic spasms of the extremities and a chain of trophic disturbances, an error in diagnosis is scarcely excusable even with those to whom a large clinical experience has been denied. But a typical case may be confused with a rather long list of conditions, among which may be mentioned poliomyelitis, encephalitis, progressive muscular atrophy, peripheral neuritis, progressive muscular dystrophy, myasthenia gravis, acro parathesias, myoclonia, myotonia congenita, epilepsy, eclampsia infantum, puerperal eclampsia, psychosthenias, tetanus neonatorum, tetanus, hydrophobia and meningitis.

This is indeed a formidable list of diseases among which are some seen too infrequently by the average physician to become familiar.

### DISCUSSION.

**B. J. O'Connor:** A few days ago I saw a child who died the third day after birth. I certified the cause of death as tetany. This may be a very early period for tetany to occur, but I believe the diagnosis was justified by the condition present. The child nursed very well on the morning of the second day but in the afternoon had a slight convulsion. The following day there were twelve or fifteen convulsions. I based the diagnosis of tetany on the constant

tension and almost rhythmic contraction of the foot muscles; there was incessant twitching of the feet, also some irritability of the facial muscles; a slight tapping caused contraction of the eye and facial muscles, and also the muscles of the arms. The child had many convulsions and died on the third day after birth.

I would like for the essayist to tell us in closing whether my diagnosis of tetany was correct.

**E. S. Allen:** It has been my experience that tetany occurs most frequently in neurotic persons and is often due to reflex or localized irritation. I recall the case of a neurotic female who suffered from symptoms thought to be due to calculi in either the biliary or urinary tract. Chemical and microscopic examination of the urine showed nothing abnormal. She complained of severe pain in the upper right abdominal quadrant and exhibited the characteristic motor and sensory disturbances of tetany. The patient was referred to us for diagnosis and treatment.

Thorough clinical examination supplemented by roentgen-ray investigation demonstrated pyloric obstruction. At operation the pyloric end of the stomach was found angulated by adhesions to the liver and gall bladder, the latter being normal. The adhesions were separated and gastro-enterostomy performed as a safety measure. She made a satisfactory recovery and there was no recurrence of the symptoms of tetany.

This patient exhibited one symptom, which has also been prominent in other cases coming under my observation, i. e., very rapid respiration; we counted 160 per minute, the pulse being 120. In the case I have mentioned tetany had persisted for some time and the attacks lasted from ten to fifteen minutes.

**Virgil E. Simpson (Closing):** The etiology of tetany forms an interesting study and was only mentioned in the paper to show the multiplicity of conditions which may arise as well as the multiplicity of symptoms. The diagnosis depends largely upon hyper-excitability of the motor apparatus to galvanic stimulation. Definite diagnoses without these means of demonstration are of course open to some question. In every case of tetany there is always this hyper-excitability, both motor and sensory. The response to galvanic stimulation is so entirely abnormal and different from that noted in catatonic conditions and hysterical manifestations that the possibility of diagnostic error is reduced to the minimum.

It is quite true that gastro enteric conditions are responsible for the production of tetany as well as removal of part or all of the parathyroid structure. I have seen several cases of gastro-enteric tetany in two of which there was pyloric



obstruction; in one gastro-enterostomy was performed; the symptoms of tetany developed the day of the operation not before the procedure was undertaken and persisted for several days after operation. The patient lived about a week following the operative procedure. Typical clinical phenomena were present and the response to galvanic stimulation was characteristic, so there was no question as to correctness of the diagnosis.

Some of the more obscure manifestations, such as gastro-enteric spasm, are exceedingly interesting from a diagnostic standpoint. I have recently had under observation a patient with rather persistent attacks of enteric spasm in which the cause could not be determined. Roentgen-ray study of the gastro-enteric tract was entirely negative as was also physical examination of the abdomen; the patient was somewhat emaciated and had a tumor been present it would have been demonstrated by palpation. There was persistent pain usually confined to left side of the median line below the greater curvature of the stomach attended by nausea and vomiting; the pain was of considerable severity requiring narcotics for its relief; the attacks recurred at irregular intervals; duration from twenty-four to forty-eight hours. Galvanic stimulation produced the characteristic results already sufficiently described.

Some of the most interesting cases of tetany are those occurring in maternity work. The attacks may occur before delivery, synchronously with delivery at full term, or during the stage of lactation following delivery. I saw a case in consultation with a country physician a few months ago in which the diagnosis of puerperal eclampsia had been made. The urinary findings showed only a trace of albumin and no casts at that time, and subsequent examination disclosed a similar picture; these findings in connection with blood examination excluded the possibility of serious kidney involvement. On this basis we concluded that the patient had tetany of the maternity type although the galvanic stimulation test was not applied.

I saw another case about a year ago in consultation in a man aged forty-eight years, who had the type of tetany seen in workmen. The patient was a foreman in one of the large railroad shops. He had previously exhibited no evidence of muscular contractions, there was no history of epileptic manifestations, yet after the development of muscular spasms the diagnosis of epilepsy had been made. The patient was sent to the Norton Infirmary and was under constant observation for a week or ten days. His galvanic response showed that it was a case of tetany. The treatment in these cases, which I did not consider in the paper, sometimes helps to clarify the diagnosis. In this particular case the man was given calcium chloride intra-ven-

ously and made a satisfactory recovery. He has had no further evidence of abdominal pain, the muscular contractions entirely ceased, and his epileptoid manifestations disappeared.

Someone asked whether I had observed tetany originating in the urogenital tract: One such case has recently come under my observation. A man developed pain referred to the left kidney region; roentgenograms made on three different occasions showed no evidence of urinary calculi; the ureteral catheter disclosed no kinks or ureteral obstructions. Response to galvanic stimulation was characteristic thus justifying the diagnosis of tetany. The man recovered without operative procedures and no symptoms have occurred during the period of a year.

In regard to the case mentioned by Dr. O'Connor: We know that the majority of convulsions in infants are of gastro-enteric origin. Thorough emptying of the alimentary canal usually discloses the presence of large quantities of undigested or partially digested food. After the digestive tract has been properly cleansed the convulsions cease.

On the other hand there are many cases of convulsive manifestations in children which in my judgment are of tetany origin. Taking into consideration the characteristic muscular contractions and other manifestations described by Dr. O'Connor his diagnosis in my opinion was probably correct.

---

**A Solution of Pulmonary Tuberculosis.**—Parainvestigated the possibilities of infection in thirty-two children, aged 8-13, suffering from pulmonary tuberculosis. A slight exposure dating five to ten years back was found in all. Recent exposures were improbable in the majority of the children. Thus it seems that the reinfection was endogenous. There was practically always within the last six months some external factor, especially an infectious disease, reducing the resistance against tuberculosis. Prevention of these diseases is at the same time prevention of endogenous tuberculous reinfection.

---

**Blackwater Fever a Complication of Malaria.**—“Blackwater fever” Young regards not as a disease per se, but only a complication of a severe infection with malaria. This complication, which might occur, and sometimes does if the patient can survive otherwise, is made premature by the exhibition of a certain dose of quinin usually larger than the patient is accustomed to take. Its action on the large number of severely poisoned cells accounts for the explosive character of blackwater fever. Young insists that it should be called “malarial hemoglobinuria.” The presence of polychromatocytes is of great diagnostic value as to the presence of obscure malaria.

## METASTATIC GONORRHEA. CASE REPORT.\*

By EDWARD R. PALMER, Louisville.

Metastatic gonorrhea results from the entrance of gonococci into the blood stream by which they are carried to various remote parts of the body. The most frequent manner in which it is manifested is rheumatism and this is usually an acute polyarticular arthritis. It occurs in two per cent of all cases of urethritis, but never unless the posterior urethra is involved; indeed gonorrheal rheumatism practically always implies semivesciculitis. Cases have been reported following gonorrheal ophthalmia, but they are exceedingly rare. When seen in women, which is not nearly so frequently as in men, the point of entry is the Fallopian tube.

Rheumatism is not the only form of gonorrheal metastasis, many other tissues besides the joints having been reported. The next in point of frequency are the muscles, especially those of the loins and lower legs. Then come the tendons, periosteum and bursae. Another quite common occurrence is metastatic gonorrheal ophthalmia.

Besides these fairly common lesions there have been reported quite a number of cases of endo, peri and myocarditis, phlebitis, pleuritis, and meningitis. Moreover a few cases are on record showing metastatic skin lesions, such as erythema, keratosis, and purpura. I have myself had one case of purpura. That these conditions are due to a true gonococcal septicemia has been proven by the culture of the micro-organisms from the blood, the fluid aspirated from joints, pleural cavity, and spinal canal. They have also been found in the ulcerations, perforations and vegetations of the cardiac valves in cases which terminated fatally.

Some of the lesions are of such a mild character that they seem to be due to a toxemia from the absorption of the products of the activity rather than the direct action of the germs. This view seems to be supported by the fact in such lesions gonococci have not been found. An example of this is the non-suppurative, hyperemic conjunctivitis and perhaps also the general muscular soreness so often complained of.

When we see how widespread this disease may become, and realize that it may not only cause a permanent heart lesion but also even death, it behooves us to always consider it as potentially a very serious condition which should therefore be handled with the greatest care, especially when complications develop.

The cases to be reported tonight present no particularly unusual features, but I believe we should more often report cases that are likely to be encountered in everyday practice, for by discussing them and their method of treatment we will all derive benefits.

There is one point which I have often noticed which is exemplified by both of these cases, and that is that the character of the occupation has a great deal to do with the determination of the location of the lesions.

Case 1. Mr. M., aged thirty-five, occupation hotel clerk, never had venereal disease before. He presented with a thick, creamy pus exuding from the meatus just noticed two days before which microscopic examination showed to be filled with gonococci. Four glass test: first glass very cloudy, other three clear. The disease became progressively more acute as it slowly extended backward accompanied by intense burning and chordee. The entire penis became edematous and had to be supported in a "jock-strap."

In the beginning of the second week, or about ten days from the first appearance of trouble, the disease passed the cut-off muscle, all four glasses now being cloudy. This was accompanied by frequent and painful micturition and tenesmus.

Two days following the posterior involvement the patient complained of inability to write or hold a pen on account of intense pain and stiffness of his right forefinger. On examination it was greatly swollen, hot and red. The swelling in a few days extended to the other fingers and thumb and then to the wrist. The patient being unable to use this hand did the best he could with his left hand with his clerical duties.

After remaining stationary for about a week the swelling and soreness began to subside, but at the same time the left hand became involved starting just as the right in the forefinger, eventually involving all fingers and the wrist. No other joints were involved. The case under treatment (to be given later) made an uneventful recovery in three and a half months with no bad effects to either hand.

Case 2. Mr. Z., aged twenty-five, postal clerk, on his feet for long hours and using his eyes constantly. Patient had gonorrhea once before, two years ago, lasting about two months, no complications.

Four days before consulting me he noticed a slight itching and "sticking up" of the meatus. At the time of examination there was a thin, mucopurulent discharge in which gonococci were found microscopically. Four glass test: first glass contained numerous shreds and slightly cloudy, other three clear.

The case ran a very sluggish course; there

\*Read before the Jefferson County Medical Society.



were no acute symptoms and not much discharge, but in the third week all glasses became cloudy. There was no frequency and no tenesmus, the only sign of posterior involvement being the cloudy urine.

A week later, i. e., in the fourth week, the patient began complaining of a dull aching in the muscles of the back, and said his right eye felt as though he had something in it. This on examination was seen to be intensively hyperemic, the conjunctival blood vessels being greatly congested. There was no pain, no photophobia, and no discharge.

A diagnosis of metastatic gonorrheal conjunctivitis and myostitis of a toxemic character was made. Two days later the other eye became affected in the same manner and the pain in the back persisted.

For about a week the condition remained stationary and then the eyes began to improve and we thought our troubles were coming to an end, but they had just started, for, as the eyes improved, other troubles developed. The first to show was pain in the hight heel. Tarsalgia is a very common complaint in gonorrhea. It is due either to a subcalcaneous bursitis or a periostitis of the tubercle of the os calcis. The latter frequently results in a permanent, painful exostosis which requires surgical removal.

The subsequent history of this case showed his condition to be due to a bursitis as the pain eventually disappeared.

The next complication in this case was true arthritis, first the right ankle, then the toes and entire foot, and then the right knee. It was of a very slow grade, more of an arthralgia and stiffening. His general temperature was never over 102 F.

As the joints of the right side began to improve the same on the left side began to give trouble, starting first at tarsalgia, then ankle, toes and knee.

At one time this patient had involved both eyes, both knees, ankles, heels, feet and his back. At no time, however, were the joints sufficiently painful to keep him from coming in an automobile to my office for treatment. After four and a half months he was dismissed with both his rheumatism and gonorrhea completely cured.

In treating gonorrheal metastasis the first effort must be directed toward removing the cause, i. e., the gonorrhea. This calls for appropriate treatment locally to the posterior urethra, prostate and seminal vesicles.

Where the joints are acutely inflamed, as in the first case, I have found the greatest relief to the patient to follow enveloping the part in gauze wet with a hot saturated solution of magnesium sulphate, the heal and

moisture being retained by covering with oiled silk.

In subacute cases, like the second, it is not necessary to fix the joint. My main reliance in all cases is on the mixed bacterins. I believe that by their use the course of the disease is shortened; that the symptoms are less severe; that complications such as suppuration are rarer, and that ankylosis is less likely to supervene.

As the acute symptoms subside I give iodide of potassium internally with first passive and then active motion and massage.

---

#### ABSENCE OF LEFT TUBE AND OVARY. ANOMALOUS UTERINE FORMATION. CASE REPORT.\*

By LOUIS FRANK, Louisville.

We have recently encountered two anomalous cases in our routine surgical work which may be worthy of brief record.

Case 1. Two weeks ago today we operated upon a young woman for appendicitis. After removing the appendix we explored the abdomen and found she had a hemorrhagic cyst of the right ovary which we proceeded to extirpate. The left side was then explored, as is our custom in all cases where the abdomen is opened, and much to our surprise there was found absolutely no evidence of development of tube or ovary on the left side. The left side of the uterus was perfectly smooth. The right ovarian mass had pushed the uterus well over towards the left side. The left round ligament was very short and had probably assisted in pulling the uterus in that direction. The cavity to the right of the uterus was divided into two distinct fossae. The patient has made a satisfactory recovery.

Case 2. Two days ago we operated upon a girl aged fourteen years for hydrometra. Upon exploring the abdomen we found the right uterine cornu perfectly developed with a normal tube and ovary on that side. On the left side there was a normal ovary and tube with embryonic development of the uterine cornu, the latter consisting merely of a tube twice the diameter of the Fallopian tube and continuous with it and attached to the developed cornu on the right side. At a distance which would correspond to the uterine cornu on this side the utero-ovarian ligament was implanted into what corresponded to the posterior peritoneum of the broad ligament in this area. On each side the round ligament entered the internal inguinal ring as is normal.

---

\*Clinical report before the Louisville Medico-Chirurgical Society.

## NEWS ITEMS

535 N. Dearborn St.,  
Chicago, Ill.,  
May 1, 1923.

During April the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

## Abbott Laboratories

## Neutral Acriflavine-Abbott

Tablets Neutral Acriflavine-Abbott,  
0.03 Gm. (1-2 Gr.) Enteric Coated

Tablets Neutral Acriflavine-Abbott  
0.03 Gm. (1-2 Gr.)

## Hynson, Westcott &amp; Dunning

Phenoltetrachlorophthalein-H. W. & D.

Ampules Phenoltetrachlorophthalein - H.  
W. & D.

## Mallinckrodt Chemical Works

Carbon Tetrachloride Medicinal-M. C. W.

## Merck &amp; Co.

Skiabaryt (for Rectal Use)-Merck

Skiabaryt (for Oral Use)-Merck

## Powers-Weightman-Rosengarten Co.

Carbon Tetrachloride C. P. P. W. R.

## Nonproprietary Articles

Neutral Acriflavine

Carbon Tetrachloride Medicinal

During May the following have been ac-  
cepted:

## Abbott Laboratories

Benzyl Fumarate

## Deshell Laboratories

Petrolagar

Petrolagar (Unsweetened)

Petrolagar (with Phenolphthalein.

Petrolagar (Alkaline)

## Hoffmann-La Roche Chemical Works

## Digalen Roche (Cloetta)

Ampules Digalen-Roche (Cloetta),  
1.1 Cc.

Tablets Digalen-Roche (Cloetta)

Hypodermic Tablets Digalen-Roche  
(Cloetta)

## Oleo-Bi-Roche

Ampules Oleo-Bi-Roche, 2 Cc.

## Mead Johnson and Company

Mead's Cod Liver Oil

## H. A. Metz Laboratories

Sulpharsphenamine-Metz

Sulpharsphenamine-Metz, 0.05 Gm.

Ampules

Sulpharsphenamine-Metz, 0.075 Gm.

Ampules

Sulpharsphenamine-Metz, 0.1 Gm.

Ampules

Sulpharsphenamine-Metz, 0.15 Gm.

Sulpharsphenamine-Metz, 0.3 Gm.

Ampules

Sulpharsphenamine-Metz, 0.45 Gm.

Ampules

Sulpharsphenamine-Metz, 0.6 Gm.

Ampules

## Frederick Stearns and Company

Insulin-Stearns

Insulin-Stearns Single Strength

Insulin-Stearns Double Strength

The University of Louisville medical department has received a collection of McMurtry memorabilia about which it hopes to develop a historical museum. A portrait of Dr. Lewis S. McMurtry, painted by Ferdinand G. Walker, will be hung in the school library. Miss Mary L. McMurtry, daughter of the deceased physician, has presented his entire library, which includes the transactions of the American Gynecological Association and the American Surgical Association for many years and copies of editions of rare publications. Letters from Oliver Wendell Holmes, Ephraim McDowell and Samuel D. Gross are included, and a scrap book kept at the time Dr. McMurtry was president of the American Medical Association.

Dr. George W. Duvall, Full-Time Health Officer for Daviess County has been granted a leave of absence by the Daviess County Board of Health for a six weeks' attendance upon the special public health course conducted at Ann Arbor, Michigan by the U. S. public health service. This affords Dr. Duvall a splendid opportunity for study, and his many friends are glad to see him have such a promising and profitable vacation. Daviess County is proud of its Full-Time Health Department and the splendid work that has been done; and this courtesy extended to Dr. Duvall is but one of many expressions of the gratitude the people of that county have for the work he is doing.

Under the auspices of the Community Chest, Dr. Haven Emerson of New York has completed a health and hospital survey of the city of Louisville. The report will be submitted in the fall to a professional committee representing organized medicine and made up of the state, county and city health officers, the dean of the University School of Medicine and the presidents of the staffs of eight local hospitals.

Dr. Louis E. Young, Paducah, has been re-elected Physician of McCracken County for a period of two years.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

PRESIDENT  
FRANK BOYD .....Paducah

PRESIDENT-ELECT  
J. RICE COWAN .....Danville

VICE PRESIDENTS  
C. W. DOWDEN .....Louisville  
J. G. FOLEY .....Pineville  
E. G. THOMAS .....Benton

TREASURER  
W. B. MCCLURE .....Lexington

## DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville  
LEWIS S. MCMURTRY .....Louisville  
W. W. RICHMOND .....Clinton

ORATOR IN SURGERY  
L. WALLACE FRANK .....Louisville

ORATOR IN MEDICINE  
E. R. PALMER .....Louisville

FIRST DISTRICT  
V. A. STILLEY .....Benton

SECOND DISTRICT  
D. M. GRIFFITH .....Owensboro

THIRD DISTRICT  
J. H. BLACKBURN .....Bowling Green

FOURTH DISTRICT  
C. Z. AUD .....Cecilia

FIFTH DISTRICT  
C. G. HOFFMAN .....Louisville

SIXTH DISTRICT  
R. C. MCHORD .....Lebanon

SEVENTH DISTRICT  
VIRGIL KINNAIRD .....Lancaster

EIGHTH DISTRICT  
F. A. STINE .....Newport

NINTH DISTRICT  
A. T. BRYSON .....Ashland

TENTH DISTRICT  
R. J. ESTILL .....Lexington

ELEVENTH DISTRICT  
W. M. MARTIN .....Harlan

SECRETARY-EDITOR.  
ARTHUR T. MCCORMACK .....Louisville

BUSINESS EDITOR  
L. H. SOUTH .....Louisville

ASSOCIATE EDITORS  
H. A. COTTELL .....Louisville  
J. K. FREEMAN .....Louisville

ASSISTANT EDITORS  
UROLOGY  
OWSLEY GRANT .....Louisville

DERMATOLOGY  
S. A. STEINBERG .....Louisville

GENERAL SURGERY  
IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

PEDIATRICS  
P. F. BAEROUR .....Louisville

OBSTETRICS  
EDWARD SPEIDEL .....Louisville

L. O. REDMON .....Lexington

BYE  
ADOLPH O. PFINGST .....Louisville

EAR, NOSE AND THROAT  
O. T. WOLFE .....Louisville

PROCTOLOGY  
S. S. WATKINS .....Louisville

PRACTICE OF MEDICINE  
G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

P. D. GILLIM .....Owensboro

R. H. COWLEY .....Berea

ANESTHETICS  
W. H. LONG .....Louisville

DENTAL PROPHYLAXIS  
GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Third District**—The members of the Third District Medical Society met with the Christian County Medical Society at the Western Kentucky State Hospital, Hopkinsville, on Wednesday June 25th.

Heretofore the Christian County Society has held its annual meeting at the State Hospital as the guest of the Supt. Dr. W. W. Durham, the physicians of Christian and the surrounding counties being invited to the annual meeting.

On the invitation of Dr. Durham, the Third District Medical Society with the doctors of all of the adjoining counties held its session at the hospital. There were present fifty-three physicians, representing more than one-half of the counties of the district.

A delightful dinner was served by the staff of the State Hospital.

The following program was rendered:

Some Personal Experiences with Gastric Ulcer, S. S. McReynolds, Russellville.

General Paresis, Dr. Summers, Hopkinsville.

Some of the Emergencies and Tragedies of the Practice of Medicine, C. C. Howard, Glasgow.

Indigestion, O. N. Bryan, Nashville, Tenn.

JOHN H. BLACKBURN.

Secretary.

**Pike:** The Pike County Medical Society met with the following members present: W. J. Walters, Z. A. Thompson, S. B. Casebolt, J. W. Vicars, R. W. Raynor, R. S. Johnson, A. G. Osborne and Henry Kaminski. The Society met pursuant to call of the president. Also Dr. A. J. Bryson of Ashland was present and gave us a nice talk for which the Society was very grateful. The Society accepted Doctor Flanary's resignation and elected Dr. W. J. Walters as Secretary. No further business appearing before the Society, the meeting adjourned.

W. J. WALTERS,

Secretary.

**Boyd:** At 6 o'clock on the evening of June 26th, the Boyd County Medical society sat down to a fine dinner, at the Hotel Ventura. After satisfying our "hunger pains" and giving the gastric secretions a plenty to do we listened to a splendid program.

Papers read were as follows:

Anaesthesia, T. D. Goodman.

Tuberculosis, A. J. Hillman.

Climacteric, Clifford Woods.

The meeting was well attended and all the papers were of real interest.

LESLIE H. WINANS,

Secretary.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



—THE—  
**Brown Hotel**

4TH AND BROADWAY  
LOUISVILLE, KENTUCKY

*Headquarters Kentucky  
Medical Association - 1924*

\*

*700 Rooms*

*700 Baths*

*Circulating  
Ice Water*

\*



*Moderate  
Rates*

*Popular  
Prices*

*Coffee Shop*

*Centrally  
Located*

*THE newest and finest hotel in the South  
has been selected as Headquarters for  
the September meeting, 1924.*

*Every comfort and convenience at most reasonable  
rates is assured at the first meeting of the Associ-  
ation since the completion of this beautiful Hotel.*

*We extend you a cordial welcome and prom-  
ise that you will enjoy your meeting at the*

**BROWN HOTEL**

*CARL M. SNYDER, Manager*

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council  
Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00  
Single Copy 50 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., OCTOBER, 1924

No. 10

## CONTENTS AND DIGEST

### EDITORIALS

A NEW DIRECTOR .....	363
TWO APPOINTMENTS.....	363
BIRTH AND DEATH CERTIFICATES.....	363

### SPECIAL ARTICLE

OBSTETRICAL COLUMN By Alice Pickett, Louisville...	364
--	-----

### ORATION IN MEDICINE

THE "DOCTOR"—PAST, PRESENT AND FUTURE, B E. L. Palmer, Louisville.....	367
POEM, By B. A. Washburn, Paducah.....	371

### ORIGINAL ARTICLES.

ELECTRO-CAUTERIZATION VERSUS OPERATION IN CAN- CER OF THE UTERUS, By A. D. Willmoth, Louis- ville.....	371
MEDICAL FADS AND FRAUDS, By A. H. Barkley, Lex- ington.....	376
REPORT OF TWO DEATHS FROM THIRD INOCULATION WITH TYPHOID, PARATYPHOID VACCINE; SOME OBSERVATIONS ON TYPHOID INOCULATIONS, By J. L. Russell, Adairville.....	378
PELLAGRA, CASE REPORT, By V. U. Moss and W. C. Moss, Rockfield.....	383

(Continued on Page V.)

## JUST ISSUED

# Reynolds and Macomber on Fertility

This is a practical book—and a very thorough one. It discusses the subject as a biologic problem. It takes up frequency, physiology, the mechanism of fertilization, the determining cause of sterility, such as chronic passive congestion, arrest of development, specific and non-specific infections, dyspareunia, displacements and neoplasms, diseases of the testicle, of the epididymis and vas deferens, of the prostate and seminal vesicles; impotence and allied conditions, sterility of marriage from relative infertility of partners, miscarriages and the management of pregnancy, one-child sterility, the marital habit, prevention of sterility by care in puberty and during menstruation, conduct of a case, surgery of sterility. The work brings together all the knowledge on the subject scattered through the literature, interpreting it as dictated by the large clinical experience of the authors. The text is instructively illustrated.

*Fertility and Sterility.* By EDWARD REYNOLDS, M.D., Boston; and DONALD MACOMBER, M.D., Boston, with a section on the *Determining Causes of Male Sterility* by EDWARD L. YOUNG, JR., M.D., Boston. Octavo of 285 pages, illustrated. Cloth, \$5.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



# FOR BABY'S DIET

## A PRESCRIPTION

A written prescription is definite and cannot be forgotten.

It also carries with it the authority of the doctor himself.

It is individual—and its individuality shows that *thought* has been given to the baby's individual requirements—the mother is much more interested in her physician's judgment and much less apt to take cognizance of outside interference.

A prescription of

**FRESH COW'S MILK, MEAD'S DEXTRI-MALTOSE AND WATER** not only gives gratifying results for the average baby but also establishes confidence between the mother and the doctor.

**MEAD'S DEXTRI-MALTOSE** *can only be prescribed by the physician*—there are no directions on the package.

When **DEXTRI-MALTOSE** is used as the added carbohydrate of the baby's food the physician himself *controls* the feeding problem.

### MEAD'S P & C COD LIVER OIL

A dependable cod liver oil of known origin. Exceptionally high in antirachitic, antiophthalmic and growth values. Mild in taste and well tolerated.



### MEAD'S CASEC

For preparing a milk modification high in protein and correspondingly low in carbohydrate. For use in Fermentative Diarrhoeas and Marasmus.

## MEAD JOHNSON AND COMPANY

EVANSVILLE, INDIANA, U. S. A.

**NOTE:** We will be glad to print, with the physician's name and address, a set of prescription blanks for use in his infant feeding cases.

MEAD JOHNSON & CO., Evansville, Ind.  
Please send me "No Charge"

- ☐ A Set of Prescription Blanks
- ☐ Samples and Literature, Mead's P & C Cod Liver Oil
- ☐ Samples and Literature, Mead's Dextri-Maltose.
- ☐ Samples and Literature, Mead's Casec

\_\_\_\_\_ M. D.

\_\_\_\_\_ ST.

CITY \_\_\_\_\_ STATE \_\_\_\_\_

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., OCTOBER, 1924

No. 10

## EDITORIAL

### A NEW DIRECTOR

It is a pleasure to introduce to the profession of the State, Miss Margaret L. East, the new director of the Bureau of Public Health Nursing of the State Board of Health. Miss East will need no introduction in those counties where the Red Cross has been at work for she has been a Kentuckian for the past three years, serving as director of nursing for the Red Cross. Miss East received her training at the Children's Hospital in Washington and has taken numerous post-graduate courses in public health nursing. When we say to our physicians that she was recommended for the position by her beloved predecessor, Miss Marian Williamson, we know that she will need no other endorsement to the profession.

Miss Williamson retired from the position because of the attraction of other fields of activity. No public official in Kentucky ever gave better service to the people of the State than this good woman. Her friends in every county in Kentucky will be delighted to know that her new work will keep her in the State, and the State Board of Health will continue to use her valuable advice in its numerous problems in the solution of which she is so well qualified to assist.

Miss East, as director of this bureau, will have entire supervisory charge of the public health nursing activities of the State Board of Health and of the public health nursing in every city and county in the State. We have felt able to assure her of the earnest co-operation of every physician in Kentucky.

### TWO APPOINTMENTS.

Since it was organized in 1851, the Kentucky State Medical Association has taken an especial interest in the State institutions for the care of the insane, delinquents and defectives. Most of the improvements in the management of these institutions have been due to the initiative of the members of the medical profession associated with the forward-looking citizenship of the State.

From the time in 1898, when these institutions were first made footballs of party poli-

ties, until 1920, when they were removed from the political arena, in its improper sense, and put into the hands of a non-partisan board composed of the best citizenship of the State, the profession has been delighted in the increased efficiency of the institutions. The announcement of the appointment of Miss Linda Neville to succeed Mr. Sackett and of Honorable E. E. Shannon, of Louisa, to succeed Dr. Halley assures the profession and people of the State that Governor Fields is determined to maintain the high standard set by his predecessor in the conduct of these institutions.

Miss Neville needs no commendation to the medical profession of Kentucky. Unselfish, self-forgetful, she has given her life to a wonderful degree to actual work for the unfortunate. No citizen of Kentucky has done more to make those, who have been otherwise forgotten, know that somebody cared than this splendid woman. In addition to her broad human sympathy, Miss Neville is an efficient administrator and a good business woman.

Mr. Shannon is not so well known except in Eastern Kentucky, but we know no man in the entire State better qualified by his character and training for the great responsibilities of membership on the State Board of Charities and Corrections than he. Mr. Shannon is among the leaders of the Kentucky bar. He has served two terms in the General Assembly. He is a successful business man. He is a Christian in his daily life and in his love for humanity. Mr. Shannon is one of the finest characters in Kentucky.

It is a pleasure to congratulate Governor Fields for these selections for the State Board of Charities and Corrections.

### BIRTH AND DEATH CERTIFICATES.

The State Registrar of Vital Statistics of the State Board of Health asks the JOURNAL to call the attention of the profession of the State to the systematic and detailed survey that is being made in every county with regard to the registration of birth and death certificates. This is being done by a joint agent of the State Board of Health and the Federal Census Bureau. Through the co-operative service with the Federal Govern-



ment, the Bureau of Vital Statistics is now issuing a very attractive birth certificate to the mother of every baby born in the State. This has increased the demand on the Board for certification. Many mothers are writing in for certificates whose babies have not been registered. When the Federal inspectors find these unregistered babies they take out warrants for the doctors who failed to make the report within ten days after the births. In a few instances, they are fined where certificates are made out with wrong names for the babies. This violation of the law carries a fine of \$500 and it is important that the physician understand it.

It is gratifying to know that there are less than 25 doctors in the State who are violating this important law. Recently 12 of these have been fined from \$50 to \$500 and all of them will have their certificates to practice revoked if the offense is repeated.

Under the Kentucky law our physicians are given great responsibility and opportunity and the State feels that it has a right to certain services from the doctors for which they are paid, as this is one of the few states in the Union which pays its physicians for such certificates. It is especially incumbent upon us to see that the few men who are failing to observe this law comply with it. The Kentucky State Medical Association is squarely behind the Vital Statistics law and has been since its enactment.

**Injection Difficulties:** Almost every physician, some time or other, has on his hands a patient with veins so small or inaccessible that to give an intravenous injection is difficult or quite impossible. This happens occasionally in treating syphilis, for instance.

Till now, physicians in such a situation have found themselves seriously handicapped, especially since the arsenicals most effective in that disease have been suitable for intravenous use only. To inject these drugs intramuscularly would not do. It therefore became necessary to go back to mercury in accordance with old established routine and thus to make the best of it, as we say.

So it was till the new drug, Sulpharsphenamine, came to light. This was produced in America for the first time at the Dermatological Research Laboratories, the Philadelphia branch of The Abbot Laboratories, Chicago. While effective as a spirocheticide, Sulpharsphenamine appears also to have a wide margin of safety so far as the patient is concerned. Some of those who have investigated its practical value, assert that the drug is especially useful in neurosyphilis.

## SPECIAL ARTICLE Obstetrical Column

Edited By ALICE N. PICKETT.

Director of Prenatal Clinic, Louisville City Hospital.



MOTHER AND CHILD.

Services of Dr. Glass—(May 3—June 7, 1924).

This was the heaviest service in the history of the hospital, covering sixty-one deliveries in the house and fourteen in the homes.

From the study of this service we have been impressed with the importance of several points. In the first place we lost four lives,—two mothers and two babies, from three cases of eclampsia—a disease that can be prevented in almost every instance by prenatal care. Certainly its severity can be ameliorated to such an extent that neither mother nor child need die of it. Dr. Asa Davis makes the following statement in the last report of the New York Lying-In Hospital—a report which covers two years work and 10,655 deliveries—“We find that the maternal mortality among patients who have been wholly under the care of the Hospital is being progressively reduced from year to year. This is being brought about, we believe, by better and more systematic care and education of patients during pregnancy, together with fuller co-operation on the part of the patients themselves. The results are strikingly seen in the matter of reduction of toxemia patients, either of the

milder form or where the condition has progressed to the stage known as eclampsia. Thus, during each year under consideration there was one death from toxemia of the convulsive type and one from the non-convulsive type—four deaths in all from this cause. It is not so many years since eclampsia was one of the frequent and dreadful complications of pregnancy, and it was not uncommon for the hospital to be able to show ten or twelve cases in various stages at one time. Now, this condition has almost disappeared among patients who have been under our care during pregnancy; so that we do not have enough cases exhibiting this complication to give our interne staff, pupils and nurses an adequate idea of what this meant a few years ago."

Dr. Davis continues: "But, we are also of the opinion that no great impression will be made upon the fearful mortality in this country from child-birth until the "emergency" patient disappears. Some private practitioners and many of the well conducted maternity services have shown the way. This kind of service should be given every expectant mother."

In the second place, we had borne in upon us the importance of the proper technique in the delivery of the twins. The second baby in one case was lost from a neglected transverse position. Several times in the last five years this same thing has happened to us from the same cause. There seems to be a tendency among some of our physicians to let nature take its course, as to the delivery of the second child of twins. The outcome of cases so treated has been, in our experience, most disastrous. In those neglected cases where the second child lies in transverse position, the baby is usually lost and the mother runs grave risks from hemorrhage or ruptured uterus. It has been the practice of the hospital staff to deliver the second child by version, whenever there is undue delay following the delivery of the first. The results of this course have been excellent.

Our third lesson comes from the study of our last case of eclampsia. From it I learned that unless delivery by version promises to be very easy and quickly done it is better to wait for an eclamptic in active labor to deliver spontaneously or at least to drive the head down within easy reach of forceps. In this case I lost the baby during a version rendered difficult because the mother was a primipara, the child was relatively and actually large and the bag of waters had ruptured several hours when the delivery was undertaken.

Because of the unusual number of cases

we did not have space in the journal for the tabulation of the service, so that we are giving instead the following figures:

Cases delivered .....	74
Cases undelivered .....	1
Total number of cases .....	75
Normal deliveries .....	66
Multiple pregnancies .....	2
Caesarean Section .....	2
Forceps deliveries .....	4
Versions .....	3
Eclampsia .....	3
Milder toxæmias .....	13
Syphilis (66 tests) .....	7
Maternal deaths .....	2
Foetal deaths .....	8
Sapraemia .....	1

#### TWO MULTIPLE PREGNANCIES (One foetal death.)

Cases 35 and 61. Hospital Nos. 57,973—58,238. Dr. Glass, Interne; Dr. Rubel, Staff

In the first case the woman was brought into the hospital three hours after delivery of the first child of a twin pregnancy. The second child was dead, lying in transverse position, the hand and arm protruding from the vagina. The hand was replaced and a still-born child was delivered by version. The death of this child was caused by undue delay in delivery before admission and cannot be counted against this service.

In pleasant contrast is the outcome of the delivery of our second case of twins (Case 61), delivered by Dr. Glass and Dr. Rubel. In this case the second child was found to be lying in transverse position, after the spontaneous delivery of the first in L. O. A. A version was done immediately and a living baby delivered. Each child weighed seven pounds and one ounce. The mother's blood gave a four plus reaction. She had received no treatment. The babies were apparently normal, though they were discharged after two weeks weighing less than at birth.

#### TWO CAESAREAN SECTIONS. (One Maternal Death.)

Case 6. Hospital No. 57,707. Para 5. Dr. Glass, Interne; Drs. Rubel and Speidel, Staff.

This was a clinic patient. She gave a history of having had four full term pregnancies, each terminating in forceps delivery. One child was lost at delivery and one died at three years. Her measurements were 21-24-18½-10½. The outlet was only fair. The bag of waters ruptured one and one-half hours before the pains began. Rectal examinations were made at frequent intervals during labor. Only one vaginal examination was



made and this was done under the strictest precautions as to asepsis. At nine p. m. she had two fingers dilatation. Five hours later, after two hours of practically continuous pains, she showed three and one-half fingers, the head fixed in the pelvis,—in L. O. A. position. During the next three hours she made no progress in spite of good contractions. A section was decided upon, the operation followed the onset of labor by 12 hours. A living baby was delivered. The mother died two days later from acute dilatation of the stomach following shock and hemorrhage.

Case 39. Hospital No. 57,221 Para 1. Dr. Glass, Interne; Drs. Rubel and Speidel, Staff.

A clinic patient. Her measurements were 22-24-19½-10¼. The outlet was contracted. The head was fixed in L. O. A. position, the baby alive. A Caesarean Section was decided upon at the onset of labor and the operation was done at once. A living baby was delivered weighing six and one-half pounds. The mother and child were discharged in good condition.

#### FOUR FORCEPS DELIVERIES.

(No foetal deaths).

Case 9. Hospital No. 57,634. Dr. Glass, Interne; Dr. Rubel, Staff.

A clinic patient. Para 1. Measurements 27-29-20. Promontory not felt. Outlet good. Pelvis described as normal, the position L. O. A. The first stage covered nineteen hours and forty-five minutes. After one hour and forty-five minutes of second stage pains with unsatisfactory progress, low forceps were applied. A living baby weighing seven and one-half pounds was delivered.

Case 12. (See under Eclampsia—baby lived).

Case 25. Hospital No. 57,853. Dr. Glass, Interne; Drs. Rubel and McConnel, Staff.

A clinic patient. Para 1. Her measurements were 27-28-20. Promontory not felt. Outlet narrow, the transverse diameter being seven and one-half. After about three hours of second stage pains low forceps were applied. A living baby weighing seven and one-half pounds was delivered.

Case 41. Hospital No. 58,003. Dr. Glass, Interne, Dr. Rubel, Staff.

A clinic patient giving a history of two miscarriages, a still-born baby delivered at term and one living baby born spontaneously at term. Her measurements were 26-30-21-11½. Outlet somewhat contracted, especially in transverse diameter. Low forceps were applied after two and one-half hours of second stage labor. A living baby was delivered weighing seven pounds and eleven ounces.

#### THREE VERSIONS.

(Two foetal deaths).

Case 35. (See under multiple pregnancy—second baby of twins dead on admission to hospital).

Case 57. (See under eclampsia—Baby lost during version delivery).

Case 61. (See under multiple pregnancy—Both babies lived).

#### (THREE ECLAMPSIASQ.

(Two maternal deaths—1 foetal death).

Case 12. Hospital No. 57,762. Dr. Glass, Interne; Dr. Rubel, Staff.

This patient, a Para 1. had no prenatal care. She was unconscious on admission. There was a history of her having had several convulsions immediately before coming to the hospital. She was at term and the baby was alive. Her blood pressure was 198-78. Dilatation was complete, the head on the perineum. The stomach was washed out with soda solution, and magnesium sulphate introduced through the tube. A colonic irrigation was done with poor results. 200 c. c. of blood was withdrawn from the vein. Following the above treatment she was delivered by low forceps of a living child which weighed eight pounds and four ounces.

A profuse postpartum hemorrhage rendered the manual removal of an adherent placenta imperative. Bilateral cervical lacerations and a ruptured varicose vein on the left labium were sutured to control continued bleeding. On leaving the table her pulse was 110 and she gave no evidences of shock.

She was put into a hot, wet pack, reinforced by an electric blanket—after twenty minutes the pack was removed and morphine gr. one-fourth was given. Her pulse at this time was 130—the rate steadily increased to 160. The temperature rose to 105 axilla. Consciousness was not regained and she died ten and one-half hours after admission.

The baby lived.

Case 22. Hospital No. 57,846. Para 2. Dr. Glass, Interne; Dr. Rubel, Staff.

This patient was not a clinic patient. Her mother said she had had all the graver signs of toxæmia to a marked degree. She had had three convulsions before admission. Her blood pressure was 175-98. A vaginal examination by Dr. Glass showed no dilatation. The stomach and colon were washed out with soda solution and magnesium sulphate introduced into the stomach. During this part of the treatment she had two hard convulsions. She was put into a hot pack for thirty minutes and good skin elimination was obtained. While in the pack she had a convulsion. 275 c. c. of

blood was withdrawn from the vein and 350 c. c. of twenty per cent glucose was injected. The blood pressure remained unchanged,—175-98. Morphine gr. one-fourth was given, following which proctoclysis was started. The fluid was not retained and a second colonic irrigation was done. A convulsion followed and the second dose of morphine, gr. one-fourth, was given, four hours after the first. Her pulse at this time was 108, respiration 18. One hour and thirty minutes later her pulse had risen to 132, respiration 24, ax. temp. 102.2. Her condition became rapidly worse and ax. temp. rose to 107—pulse 160—resp. 36., she died seventeen hours after admission to the hospital.

Case 57. Hospital No. 58,206. Dr. Glass, Intern; Dr. Pickett, Staff.

This patient, a para 1, had been under the care of her family doctor. Her mother stated she had had severe headaches and marked oedema for several days before she went into labor. After seven hours of active contractions, she had two hard convulsions and was brought to the hospital. She was unconscious. The fetal heart was good, the position L. O. A. Blood pressure 185-88. A vaginal examination showed dilatation complete, the head being rather unusually high in the pelvis. The bladder was catheterized, but no urine was obtained.

Active uterine contractions augmented the restlessness of the patient. The stomach was washed out and magnesium sulphate given through the tube. 300 c. c. of blood was removed from the vein. No colonic irrigation was given at this point because it was thought best to deliver since the dilatation of the cervix was already complete.

A still-born baby, weighing ten pounds and twelve and one-half ounces was delivered by version. The mother was put to bed with a pressure of 120-60. Proctoclysis was immediately started. The mother soon regained consciousness and made an uneventful recovery. In this case version was rendered very difficult by reason of the unusual size of the child. To make matters worse, the bag of water had ruptured several hours before. The patient was a para 1. I believe this baby would have been saved had we allowed the mother to deliver spontaneously, or had we waited until the head was driven down to low forceps position. Version was undertaken as a means of lessening the duration of labor and the strain of the second stage for a profoundly toxie mother. As things turned out neither purpose was accomplished. The mechanical difficulties encountered brought about the death of the child and I am not sure the strain was lessened for the mother.

#### SYPHILIS.

Of the sixty-six women tested—seven gave positive Wassermans. Of this number, two babies of untreated mothers were lost (Cases two and forty-nine).

Three mothers were treated ante-partum. Case three received five injections of Neo—Case twenty-four had a full course of treatment. Case thirty-two had two injections of Neo. The weights of the babies were eight pounds, seven pounds and six and one-half pounds respectively. All these babies were born at term and all lived. Case fifty-two had no treatment. The baby was born at term, weighing five pounds and three ounces.

Case 61—had no treatment. Her Wassermann was four plus. She was delivered of living twins, each weighing seven pounds one ounce and each apparently negative for bias.

---

### ORATION IN MEDICINE

---

#### THE "DOCTOR"—PAST, PRESENT AND FUTURE.\*

By EDWARD R. PALMER, Louisville.

When one has been engaged in the practice of medicine for almost a third of a century, there often comes to him in the quiet hours of the night the realization that in not many more years he may expect to be summoned before his Maker to give an account of his stewardship.

This causes him to pause and dismiss from his mind all thoughts pertaining to immediate affairs, so that by a retrospective inventory of activities and accomplishments he can determine whether or not to hope for the verdict: "Well done thou good and faithful servant."

Starting, as these backward musings do, with the events of the near past, there is noticed at once a tendency to quickly brush aside the more recent happenings, in order to make way for the onrushing memories of scenes and incidents of the "boyhood" stage of his professional career.

And first, in this kaleidoscopic panorama, there appears before the mind's eye the pictures of the great, outstanding figures in the medical profession of the preceding generation: Yandell, Bodine, Palmer, Kelly, Wathen, McMurtry, Richmond, And, McCormack, Ouchterlony, Larabee and Vanece.

He recalls how broad-minded those great men were, and how varied their professional

---

\*Delivered before the Kentucky State Medical Association, at Louisville, September 22-25, 1924.



attainments! Doctors, each and every one, in the OLD meaning of the term; healers and comforters of the sick and afflicted; confidants and counsellors of the distressed and worried. And, as he remembers with what reverence he looked up to them, with the determination to try and follow in their footsteps, deep in his soul the question arises: have their mantles fallen on worthy shoulders? Is the present generation measuring up to the standard set by those grand old men,—our teachers and guides?

This question, perforce, causes a comparison to be made between the members of the medical profession today with those of the past. At once a great difference is noted. No longer do we see the profession dominated by a few brilliant super-men, for medical knowledge and surgical skill have become more democratized. There has taken place a leveling upward, so that the loss of great, outstanding figures is more than compensated for by the fact that the profession as a whole is better trained and equipped than it formerly was.

Expressions are often heard deploring the passing of the "Great Doctor," but is that an unmitigated evil? What should be the aims of progress in medical science and surgical skill? The elevation of a few great men to positions of scientific or surgical heroes, or the distribution of the benefits to be derived from such progress among the greatest number of people possible? There can, of course, be but one answer to this, and democratization of knowledge has been the means to the resulting end.

Let not the idea be inculcated that there are no great medical men today, for indeed they are just as big as those of the preceding era: but through a wider dissemination of knowledge and scientific training there has resulted a marked closing of the gap between the rank and file and the leaders; so that now, in large centers of population, first class physicians, surgeons and specialists are to be found in great numbers, while in smaller towns and even some rural districts not only are there good physicians, surgeons and specialists, but also hospitals and trained nurses.

Moreover, through the propaganda of the state and county boards of health, knowledge of hygiene, health preservation and disease prevention is being widely spread among the laity. So in the whole domain of medicine we find that the trend has been toward the democratic goal: "The greatest good for the greatest number of people."

Is this a change peculiar to our profession? Is it an isolated phenomenon or for fortuitous

happening? Or is it but one phase of the working of the supreme and irresistible law of evolution which governs the universe?

That the latter is the case will at once be seen if we will turn our gaze upon other fields of human activity. But first it will be well to see just what is meant by the term evolution.

According to Herbert Spence: "Evolution is an integration of matter and a concomitant dissipation of motion, during which matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, and during which the retained motion undergoes a parallel transformation." This broad, generalized conception is far removed from the puerile idea that William Jennings Bryan and some members of various state legislatures have been combatting so strenuously; it is a profoundly philosophical explanation of the why and wherefore of the phenomena of the universe. Based as it is on the doctrines of the indestructibility of matter, the continuity and rhythm of motion, and the persistence of force, it is no longer a speculation nor is it in any way in conflict with true religion. For it is simply the scientific interpretation of the method by which an Almighty, Omnipresent but inscrutable Power regulates and governs the universe.

The force upon which this law is based, while continually in action, has many ways of expressing itself, the rate and character of some of the resulting changes being different from those of others. In some phases of human affairs there at times appears to be periods of retrogression with a tendency toward that ultimate end of evolution,—dissolution. But when viewed as a whole, humanity in its physical, mental and moral attributes will be seen, while passing through the changes expounded by this law, to be ever progressing onward and upward.

As Spence so truly says: "From the doctrine of the persistence of force we finally draw a warrant for the belief that evolution can end only in the establishment of the greatest perfection and most complete happiness."

Slowly but surely mankind has progressed through the aeons leaving behind him "footprints in the sands of time" which mark the various stages in his evolution from ape-like progenitors to the high type of being of the present day.

To what ultimate degree of perfection is he destined? Is there to arise through natural selection, by survival of the fittest, a few highly exalted super-men who, through God's chosen people, shall dominate the earth?

That has been and is still to a great extent the prevailing idea; but what lesson should we learn from the recent cataclysm—"The World War?" To the philosopher this appears to be the culmination of the idea—super-man—the bursting of the bubble of man's conceiving himself in the image of God. The stage of evolution that is passing is that of super-man, the one nascent—super-mankind.

Instead of evolution working toward one super-man who, through his super-uation, shall govern the world, it is working toward the goal of democracy and the brotherhood of mankind, the emblem of which will be in the future, as it has been in the past, the "Star of Bethlehem."

The ways of Providence are mysterious. This war has seemed to us poor mortals horrible and ruthless cruel, with its destruction of thousands on the threshold of life in Flanders' bloody fields, its rape of women, massacre of children, and burning of priceless historical treasures.

Are we in despair to believe humanity hopelessly brutal as we see how "man, whose Heaven erected face the smiles of God adorn, man's inhumanity to man makes countless thousands mourn?" Shall we blasphemously revile the Deity for inflicting such seemingly heartless punishment? Nay, rather let us recognize that there is nothing so evil but what a modicum of good is eventually derived therefrom, and instead of cursing God do as the poet advises: "Know then thyself, presume not God to scan; the proper study of mankind is man."

When looked at in this frame of mind, does it not appear probable that an Omniscient Being had determined, in order to stamp out of the mind of man for all time the idea "super-man," it was necessary to show by a horrible example just what this would lead to? What better evidence of the correctness of such a view than the result of this war? Otherwise the law of the Jungle would have prevailed and super-man, as exemplified by Kaiser Wilhelm, would now be ruling the world, responsible only to cold, impersonal but exact laws.

Just as in the evolution of the human being, pain, suffering, bloodshed, and sometimes even death, precedes the birth of a new soul. So in that of the race, war with its arson, rape and murder ushers in the new era of universal democracy!

In every phase of human life the same changes are taking place; the passing of super-man, the birth of super-mankind. No longer do the halls of parliaments of men ring

to the clarion tones of silver tongued orators: The Gladstones, Parnells, Websters and Carlises have passed away, and in their places are large groups of highly trained specialists. Captains of finance are being lost in the rapidly increasing crowd of specially trained lieutenants, while railroad kings are things of the past. Just recently the czar of the steel industry was forced to strike his colors before the eight-hour battle-cry of democracy.

And so throughout the entire field of human activity similar changes will be seen to be taking place, and when carefully examined all will be found to be in correspondence with the law of evolution as expounded by Spencer.

Turning backward now to medicine and the medical profession: We see that the evolution of the scientific aspect of our profession has been remarkable, more progress having been made in the last hundred years than in the preceding one-thousand, and this progress has been directly along the lines laid down by this law.

One hundred years ago, while gross anatomy was a fairly exact science, histology, pathology, chemistry and physiology were in their infancy. With the perfection of the microscope, increase in chemical knowledge, and introduction of the laboratory methods of study of physiology and the action of drugs, our knowledge made rapid strides. Then came the epoch-making investigations of Pasteur into the causes, first of fermentation, second, silk worm disease, which eventually resulted in the demonstration of micro-organisms as the cause of disease and the establishment of the germ theory.

Etiology, from being a mass of indefinite, incoherent homogeneous but more or less vague idea, has now become a definite, coherent, heterogeneous germ theory. Parallel with these changes have come progress in the science of therapeutics, which, from being entirely empirical, has rapidly become more and more definite and exact.

It is essential, however, to bear in mind the relativity of all human knowledge, remembering that while current opinions and theories are in later times practically always proven to be erroneous, yet they are not entirely so, being as nearly correct as the knowledge of the times would permit them to be.

So as the germ theory of disease became more and more firmly established, there developed, *pari passu*, the theory of chemotherapy or the direct germicidal action of drugs. At the same time that these ideas were fermenting, studies in the physiological reactions of the tissues to invading micro-organisms led to theories of the mechanism



by which the body itself overcomes diseases and establishes immunity, the most readily accepted being Metchnikoff's theory of phagocytosis and Ehrlich's side-chain hypothesis.

Still further investigation along these lines led, first, to the Bordet-Gengon complement fixation test, and finally Wright's introduction of the bacterins. At first used only in the treatment of disease as stimulants to the anti-body mechanism, they later began to be used as prophylactics, giving a temporary immunity, notable in such diseases as typhoid fever and diphtheria. Moreover, the still newer science of endocrinology promises to definitely clarify many heretofore obscure metabolic disturbances.

The theory of chemo-therapy, or the direct germicidal action of drugs, culminated in the failure of Ehrlich's salvarsan to be *therapia sterilizans magna*, and we are now seeing the dawn of the new era of biologic therapeutics in which it is recognized that the body is endowed with its own mechanism for overcoming disease, and our drugs are simply stimulants or restrainers of anti-body formation.

So rapid has been the advance in medical knowledge that the profession has been hard pressed to keep even with it. It has become so complicated that it is now impossible for any one mind to grasp anything like it all. As a consequence the practice of medicine has been evolving from the indefinite, incoherent homogeneity of general practice to the definite, coherent heterogeneity of specialism.

Instead of having a general knowledge of the entire body and its diseases, physicians are forced to devote their attention to a particular region or special diseases. The special fields are being more and more numerous and narrower as knowledge increases.

What is this leading to? On all sides we hear expressions of dissatisfaction and complaint, and as a by-product there have developed those excrescences on the body medical, the many quackeries and pseudo-scientific cults.

Is the practice of medicine to become so specialized, so coldly scientific, as to lead to a loss of that close personal relationship that was formerly established between physician and patient? And if that happens will not the laity revolt and lay in ruins our carefully erected structure? There at first appears to be some danger of this, until on looking over the sea of medical evolution we notice a faint ripple approaching from the distance.

It was Emerson, I believe, who first compared evolution to the concentric circles that follow the casting of a stone into a body of

water. The outermost, representing the present stage in evolution, continues to expand to a certain point, then passes away to be followed by a second, and so on ad infinitum.

In evolution, the force, unlike that in our simile, is persistent. It causes, however, not an unbroken line of changes, but rhythmically succeeding ones. A phase starts, expands, matures and undergoes dissolution, to be followed by another, and so on, each succeeding one progressing further along in a definite way than its predecessor.

Super-specialization is to be the culmination of medicine as a healing art and science. Through it practically all diseases will be mastered and stamped out. The small, barely perceptible wave that is to replace it is that of preventive medicine. As this increases in scope, the practice of medicine as it is today will fall more and more into the background.

First, medical teaching will be gradually changed. The future student will be well grounded in the structures and functioning of the normal body, in the laws of hygiene, health preservation and disease prevention. He will then be trained to detect the slightest symptom of derangement and how to correct it before disease results. His first object will be to see that the future child comes into the world healthy and normal and that it remains so.

Such men will have no time for the study of pathology, symptomatology and treatment of advanced disease. These will be post graduate studies for specialists.

The old-time general family doctor is fast becoming a thing of the past. He is to be succeeded by the modern, highly trained health conservator whose duty it will be to instruct the members of his community in the laws of hygiene and health maintenance; to periodically examine them and watch over them from the cradle to the grave. In each community there will still be, however, groups of specialists to whom can be referred any in whom through accident disease or injury results, for all diseases will be accidents then.

To the evolutionary medical philosopher the outlook for humanity is essentially optimistic. His faith in the correctness of the principles underlying the practice of medicine is strong, and his belief in man's higher destiny, both here and hereafter, is unshakable. For this destiny to be attained here implies "*mens sana in corpore sano*" for the entire human race, and to accomplish this preventive medicine must and will eventually stamp out ninety per cent of the "ills to which flesh is heir."

The span of life will be immeasurably prolonged and death the result of natural wear and tear at a ripe old age. Then will humanity have reached that Utopian stage of universal democracy of a universally healthy and happy people, whose most respected members will be the broad-minded, highly-trained family counsellor and conservator of health,—the "Doctor of the Future."

"Hope humbly then, with trembling pinions  
soar;

Wait the great teacher, death: and God  
adore.

What future bliss, he gives not thee to know.  
But gives that hope to be thy blessing now.  
Hope springs eternal in the human breast.  
Man never is, but always to be blest  
The soul, uneasy and confined from home,  
Rest, and expatiates in a life to come.

### M O T H E R

Friends may praise you,  
They may crown you with roses  
For your success in life  
The same friends may hurl stones of slan-  
der

And crush your body to the earth  
Because you failed in your efforts.  
But there is a friend who will place her  
arms around your neck

And whisper words of encouragement in  
your ear

When you are worried and depressed.  
There is a friend who will bathe your ach-  
ing head,

And rub those tired arms,  
When illness overtakes you.  
In the last hour of your earthly life,  
When the soul travels along the hallway  
of darkness,

And the last spade of earth is thrown over  
your lifeless form,

This friend will kneel by your resting place  
And ask God for the safe deliverance of  
your soul

To the heavenly gates of paradise.  
When the curtain of tears covers the eyes  
of this friend

A vision appears to her—  
That of a baby playing upon Nature's car-  
pet of velvet green.

She unlocks the door of her soul  
Replaces the picture, revealed to her  
through tears,

And frames it with spiritual settings from  
Heaven.

That friend is "Mother."

—Burton A. Washburn, M. D., Paducah

### ORIGINAL ARTICLES

#### ELECTRO - COAGULATION VERSUS OPERATION IN CANCER OF THE UTERUS.\*

By A. DAVID WILLMOTH, Louisville.

Cancer is the greatest and most avowed enemy of all mankind and most especially womankind. Notwithstanding the determined efforts that have been made upon it by scientific investigation in laboratories and by surgery with all its successes and brilliant achievements in other lines, cancer has not only held its own in the light for existence but has actually gained in frequency, and with the exception of external cancer our results have been little if any better than they were many years ago. In fact we are doing the same things our forefathers did in an effort at its control, plus the use of radium and X-rays.

Education of the public, while it has brought in some cases earlier, has not produced the results that was hoped for when it was inaugurated.

We have made little or no progress in finding the aetnal cause of cancer and until that time comes little can be expected in education of the public so far as prevention is concerned, and very little more in efforts at control. I am, however, a very ardent advocate of education because it will bring cases under observation early enough to enable the surgeon to at least offer some encouragement in the direction of cure.

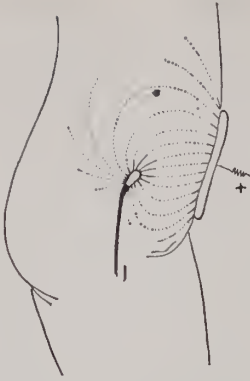
This dissertation is presented to you not for the purpose of discouraging surgery, or bringing an unjust indictment against any one in particular or criticism upon all of us collectively, but to reach a better understanding of the results to be had in this terrible malady that is carrying off its large toll of human life each year.

If the study of the supposed causes leads us deeper and deeper into the mysteries of the condition and the complexity of the many factors influencing its frequency, then our only hope at present is to fight the local (and may we say general condition) as we find it in the unfortunate that presents herself for relief, and if possible enre.

In a study of cancer statistics by Frederic L. Hoffman, he states that the cancer problem is a baffling one if not more so than it has ever been. The subject is becoming more ramified as research in one direction or an-

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.





*Electrodes as usually applied.*

other proceeds and as new problems arise and new discoveries are made. In the United States last year about 90,000 cases of cancer died. This of course was a collective number. Of this number 13,000 was of the uterus. In our own state according to the last report for 1921 and 1922, there were 2,623 deaths from cancer in all forms, adding to this cases that were not diagnosed it is safe to say that 2,700 deaths occurred from cancer in those two years. Putting this in cold hard cash as estimated by Prof. Fisher, at \$94.00 actual cost for each case and that each life is worth \$1,700.00 it reaches the grand total of \$4,860,000.00 that cancer has cost the state in the past two years. To this must be added the loss of a mother's love and the guiding hand of that mother to thousands of little children when it is most needed, and the mental anguish suffered by sorrowing families and friends.

The above is all the more alarming when we know that cancer is increasing at the rate of 2.5 per cent each year, and that mortality per hundred thousand has risen from 72 in 1904 to 94 in 1918. It is generally conceded that the liability to cancer is fully 50 per cent greater today than it was fifteen years ago.

The highest adjusted rate in 1921 was in Massachusetts 99.6 per 100,000 the lowest in South Carolina 47.6. In the cities alone San Francisco heads the list with 102.5 per 100,000, while Savannah only has 47.1. Louisville in this state has reported 61.1. (Buckley).

As to causes, there are many probable ones that all are familiar with. Allow me to call your attention to one that has perhaps not impressed you. It is generally accepted that the cancer patient is high in acidity and low in alkalinity. That anything that produces this will favor its beginning. This being true, did it ever occur to you that the large consumption of such drugs as Aspirin (the Acid Acetylsalicylate group) by increasing the protein intake, thereby increasing the pro-

duction in the system of the Amino acids might not be a factor in the increase of the disease.

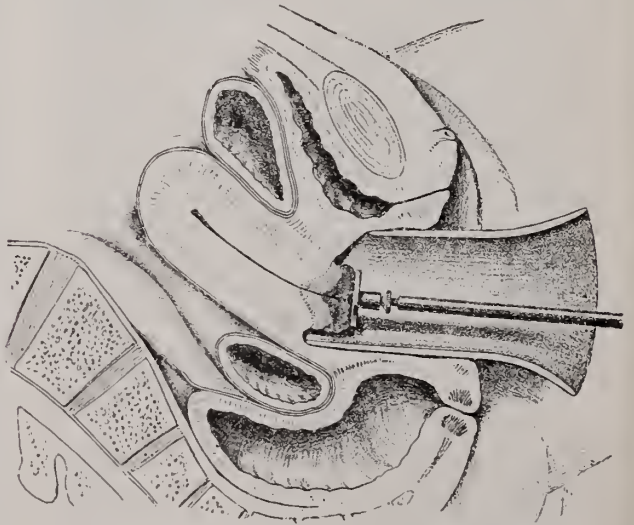
Patients with cancer of the uterus coming to the physician usually presents the three cardinal symptoms, viz: discharge, hemorrhage and pain. The discharge being the earliest, the hemorrhage, the most alarming, and the pain the most unfavorable symptom of these unfortunates. Even hemorrhage means the disease is already in an advanced stage.

The patient will tolerate the discharge even though it is foul smelling, and even the pain of marked severity, and hemorrhage if not too alarming, but the presence of the three finally forces them to consult the physician.

The writer endeavors to obtain a definite answer to the following questions in all cases of uterine cancer presenting themselves for advice:

- (a) Is the cancer clearly localized in the uterus?
- (b) Has it invaded the contiguous tissues and organs?
- (c) Has it involved the regional lymph nodes?
- (d) Has it formed a metastasis in distant structures such as the liver and bones?
- (e) Do constitutional diseases, such as Bright's, Diabetes Mellitus, non compensating heart lesions complicate the disease?

In a study of the uterine cancer cases presenting themselves at the Massachusetts General Hospital Greenough pointed out that only about 20 per cent were really operable, although 44 per cent were operated upon, that is over half of those operated upon were inoperable at the time of the operation but were not considered as such until the abdomen was opened.



*Method of treating Cancer of the Cervix by Electro Coagulation.*

Of the 20 per cent that are really operable, some will die from the immediate effects of the operation, others from metastasis so that under present conditions we can not hope to cure more than from 5 to 10 per cent by operation.

An average of one year's time will elapse from the onset of the first symptom before the patient will consult a physician. Then there are those cases in which a mistake is made in diagnosis, if not several days, and in most instances weeks are passed before the patient is ready to enter the hospital for treatment.

So with the above facts, and facts they are, confronting us, is a cutting operation justified in many cases? I think not, for we do not remove the growth by excision, but what we really do is to incise it, and by the trauma used actually favor the spread of the disease. Neither can we determine whether the glandular involvement is cancerous, or due to infection as most cases are breaking down when they apply for treatment.

All agree that the less trauma that is inflicted to a cancerous growth the better for the patient. Then what is to be done for the case? Such treatment as will offer a cure if such is possible if not then such as will relieve the foul discharge, control hemorrhage, and lessen metastasis, and allow the case to live as long as possible in comparative comfort not only to themselves but to kind friends that have to administer to them during their last days of suffering.

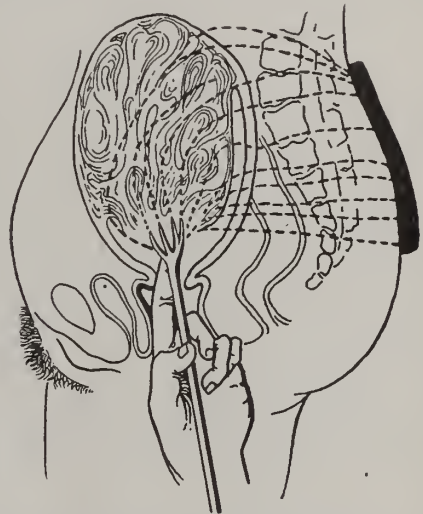
The writer after more than twenty years of surgical work and operating upon a reasonably large number of cancers of the uterus each year, and studying his own statistics and also the statistics of others both personally stated and those obtained from the literature, came to the conclusion that uterine cancer presented the darkest page in all surgical history if we confine our work to the use of the knife, or to the combined treatment of knife and cautery.

With these facts in mind many visits were made to various clinics and hospitals to see what was being done by other surgeons in similar cases to those presenting themselves to the writer for relief.

In a few hospitals work was found that seemed to be outstanding in its effect on cancer, and to those doing this work the writer wishes to express his thanks for the knowledge obtained. Here it was found that very little cutting was done, other means being used to obtain the ends to which surgery had previously been directed. Cases were examined that seemed to be hopeless, treatments were watched, and on return visits those same cases were seen and the results were little short of

marvelous. Cured, perhaps not, but the growth was removed and the parts healed and the patient seemingly well after as much as two years had elapsed. No evidence of the growth could be found in the vault of the vagina and those that seemed hopeless were enjoying life again.

In 1896 D'Arsonval demonstrated the power of high frequency current to cause a decided rise of temperature in tissues interposed between two electrodes this property of thermo-penetration has been variously utilized by different investigators. By some notably DeKeating-Hart, it has been employed for the purpose of heating tissues with a view to rendering them more radio-sensitive; by others (Nagelschmidt and Doyen) it has been used as a means of destruction of neoplasms.



*Indifferent electrode applied to Sacrum so that current will pass through lymphatics, a more preferable method.*

In 1907 Nagelschmidt in Berlin, Von-Brent, Preeps and Zeyneck in Vienna and de Kraft, and Clark in this country, experimented independently with the thermo-penetrative power of the high-frequency current.

In more recent years too much credit can not be given Dr. J. F. Percy for the persistence with which he has advocated the use of heat in the treatment of cancer. While I am not in favor of his method I am heartily in sympathy with the idea.

As Percy says: "The essential, the necessary, the important element, is a degree of heat that laboratory and clinical experience has shown will kill the cancer cell in the tissues, regardless of whether it takes a long or short time to get it there."

The serious objections to the Percy method is the cumbersome and heavy instrument with which you work, the inability to control the



heat to the part to be treated, and last and by no means least, the heat is applied external, and as used by most men is of a sufficient degree to produce carbonization which prevents the penetration of the heat.

Percy in his work realized this and attempted to overcome it in his newer instrument.

It has been conclusively shown that the cancer cell is susceptible to destruction by heat much lower than the normal cell.

Cancer cells being destroyed at a temperature of 114 F. while the normal cell will resist 140. It logically follows that we should look for the simplest, most accurate, and practical way of applying this agent. The advantages in treating cancer by Electro-Coagulation from the D'Arsonval current of a high-frequency machine is, (a) the application of heat at the moment and to the tissues to be treated. (b) the instant the current is broken the applicator is cool, and no burning of the tissues takes place. (c) it heats from the inside toward the outside being the reverse to the Percy instrument, and any degree of destruction can be produced depending on the volume of current used, and time of application. (d) requires no general anesthesia, (e) the operation is bloodless; (f) there is no shock; (g) the parts are thoroughly sterilized; (h) dangers of metastasis are practically nil because the current reverses the flow of lymph toward the surface as is evidenced by the free flow of serum from the growth; (i) tumors otherwise inoperable may be made safe for removal, if removal by surgery is later deemed best; (j) the operation is easily and quickly done; (k) post operative adhesions are rare; (l) rapid convalescence, which in many cases consists of only a few hours in the hospital, no trauma having been inflicted to the growth of surrounding tissues.

The only danger from this method being the destruction of important blood vessels and nerves due to careless, or inexperienced operator. No operator should attempt Electro-Coagulation with high currents until he has familiarized himself with the machine with which he is working by testing a given current for a given time on a piece of meat. This will give a working idea of the amount of current to be used over a given time to coagulate the tissues to a given depth. It being remembered that so-called dry tissues such as periosteum of the bone and capsules of organs and tumors are more quickly affected than muscle. Blood vessels are especially resistant because of the radiation of blood through the vessel.

#### TECHNIC.

The patient upon whom the Electro-Coagulation is to be done should either be given gas or hyoscine, morphine and caetane. My own preference being the latter. A full strength tablet being given two and a half hours before the operation, and followed if necessary by another full strength, or half strength as indicated half hour before operation. This will give you a patient upon which Electro-Coagulation of the uterus can be done without any pain or discomfort. As the coagulation is not followed by pain no fear need be had in those cases where morphine can not be given and gas is resorted to. The patient is placed on the table with the limbs flexed as for any vaginal work, and the indifferent electrode of blocked tin which should be eight by ten inches in size, is placed either on the sacral region, or on the abdomen. My own preference being the abdomen. The electrode placed directly against the skin, after the skin has been thoroughly soaped as you would to wash it. This makes a better contact and the area covered is so large that no heat will be produced or damage done, provided the electrode has no sharp corners and is kept in direct contact at every point.

The connecting wire must be securely fastened to the plate to prevent its coming loose and producing an arc in which instance a burn will result. The other cord leading from the active pole of the D'Arsonval current runs to the handle of the instrument.

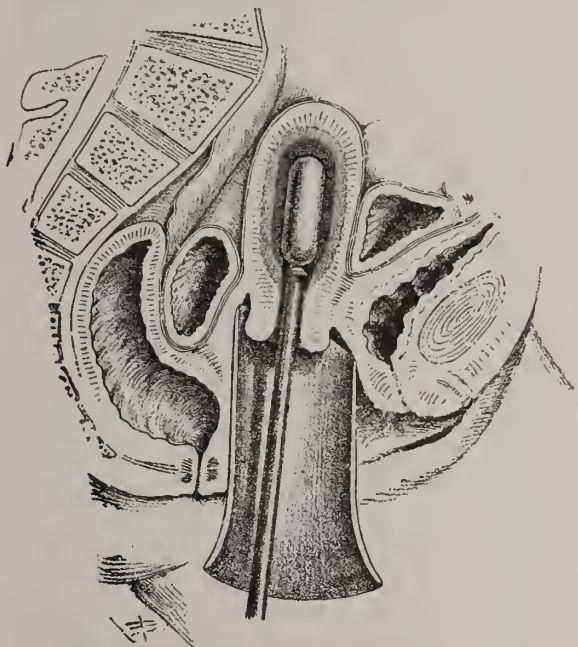
The machine should be grounded to a water or heater pipe to take care of stray currents, and should be operated by a foot switch so that the operator is always in control of the machine.

Before the electrode is placed on the patient the machine should be tested by bringing the operating electrode within about one-half inch of the indifferent. When the current is turned on, and the Milliammeter is observed it will show a reading of about 400 to 500 Milliampères less than it will show when operating on the patient.

With the patient in position, the electrodes ready, the operator pushes the aluminum needle into the tissue that is to be coagulated. The depth of the needle is controlled by the rubber tubing which has been previously slipped over the needle for the purpose of insulation, leaving as much of the needle point exposed as you intend to use, which usually means from an inch to an inch and a half, depending on the position in which the needle is inserted into the structures.

## DOSE.

It is impossible to lay down a fixed rule, but for the work under discussion the writer uses from 1,200 to 2,500 Milliampères. The smaller dose being used anterior near the bladder and posterior near the rectum. On the sides larger doses can be used. The time is dependent on the volume of the current, usually about 20 seconds at each insertion of the electrode. The needle should be left in position until the tissues become blanched. As a working rule, and especially for the beginner, a lower amperage and longer time is advised. The active electrode should not be moved until the current is broken at the foot switch, otherwise a long arc will be produced, and a severe burn in the vault of the vagina occur. The electrode is inserted in a new field and the circuit closed at the switch until the desired result is obtained. This operation repeated until the entire circumference of the uterus has been treated.



*Method of heating cancer of body of Uterus, active electrode in Situ.*

The operator should wear rubber gloves to insulate his hands. Remember you are using a very high current, capable of burning you as well as the patient. Vaginal retractors if used should be wood, as they are non-conductors.

Surgical asepsis does not have to be followed as you render your field sterile as you go.

No one should attempt this class of work who is not thoroughly familiar with the fe-

male pelvis, and the exact location of such important structures as the uterus and blood vessels if they are to be preserved. Any hemorrhage produced by the insertion of the electrode can be readily controlled by allowing a few sparks to strike the bleeding point. No curetting away of dead and fungus tissue should be done.

After 24 hours vaginal douches of formalin 1 drachm to half a gallon of water serves to deodorize and cleanse.

I would not have you believe the above treatment is a cure all for cancer, but I most earnestly insist that a fair trial will convince the most skeptical that it is a far superior to a cutting operation.

Along with it use diet, potassium nitrate (vegetable) X-ray in properly graduated doses, and radium both locally applied, and administered by mouth.

Actinic Rays applied over the body from the air-cooled lamp up to the erythema dose for its metabolic effect, also the rays from the water cooled lamp at the site of the growth, will aid the healing process. All secretions should be thoroughly removed before applying the lamp, otherwise little or nothing will be accomplished by its use. Two applications each week with the open lense at 7 inch distance for one minute, being usually sufficient.

If I have succeeded in bringing to your attention a method, which will aid you in the management of these cases, my efforts have not been in vain.

---

**Chronic Intestinal Invagination.**—Delannoy does not discuss the well known cardinal symptoms but points out a few minor ones. Loss in weight is usually present. Guinon wrote: "Some children, who become pale and cry without apparent reason may have chronic intussusception; we guess at appendicitis too much." The rectum should always be examined in intestinal disturbances. The anus is wide open, especially during the attack, and the invaginated "sausage" may be felt. The stool is sometimes normal and regular. The diagnosis between dysentery and intussusception is made by the microscopic and bacteriologic examination of feces and the agglutinins in the serum, or the presence of a tumor or a mass in the abdomen. The treatment is surgical. Reduction may be possible even after months. Tabulated details of forty-two cases from the literature conclude the paper.



## MEDICAL FADS AND FRAUDS.\*

By A. H. BARKLEY, Lexington.

If physic be a trade, it is the trade of all others, the most exactly cut out for the charlatan. There is the absence of all restraint, and the only security for the doctor's ability and fair dealings is often what is waited to the public in the gossip-tale of some retainer in his interest.

The term "quack" may be applied to every practitioner who, by pompous pretenses, mean insinuations, and indirect promises, endeavors to obtain that confidence to which neither education, merit nor experience entitles him.

There has always existed in the human mind an innate love of the mysterious, and mankind has, ever since the creation of the world, delighted in deception, thinking, with the poet, that "Where ignorance is bliss, 'tis folly to be wise."

A visit to a quack must produce a pleasurable excitement. There is something piquant in the disdain for prudence with which one delivers himself up to that illegitimate sportsman of human lives, who kills us without a qualification. There is a delicious titillation in a large demand upon your credulity; we like to expect miracles in our own proper person, and the layman will go to the illiterate practitioner of medicine for the same reasons which induced our poor ancestors to go to wizards.

How true it is that—

"First man creates, and then he fears the elf,  
Thus others creat him not, but he himself.  
He loathes the substance, and he loves the show,  
You'll ne'er convince a fool, himself is so,  
He hates realities and hugs the cheat,  
And still the only pleasure's the deceit."

That the spirit of commercialism dominates the age can not be denied, and that its effect on every profession and upon people in all walks of life is a matter of daily observation; the preachers accuse each other of following the Lord for the loaves and fishes; the lawyers charge each other with receiving fees from both sides, and the best doctors charge that commercialism is the bane of the medical profession. Thus we find scores and hundreds of young men studying medicine because they have heard of the large sums of money some of our professional brethren in large cities are making, thinking they too will get some of the "easy money." Then we have the stock company medical colleges, which are nothing more than diploma mills. These latter, thank God,

are becoming less numerous and will eventually cease to exist. The so-called Medical Journal Stock Company, in which many physicians are induced to take a block of stock, with promise of large returns, are run by a few shrewd charlatans whose only object is to fleece the investors and dispense as little knowledge as possible.

Social conditions are at present responsible for no small amount of graft and quackery as people judge a doctor by the appearance he makes, and to be somebody one must keep up appearances for the sake of maintaining his social standing in his particular community. Even if the people know you are going mainly on pretensions they will wink the other eye and accord to you a place in their midst that your pomp and pretensions claim. Most of the world are slow to engage in mud slinging, as they are fully aware of the material of which their own domiciles are constructed.

Why do quacks flourish? It has been said that a fool is born every minute, but this is not a satisfactory explanation, for the majority of people are nowadays fairly well educated. One of the principal reasons is that they are either too highly educated or not educated in the proper way, inasmuch as the average man or woman may know something about law, theology, and the current topics of the day; but when it comes to their knowing anything about the laws of health and how to care for their bodies they are densely ignorant.

We find the highly educated man patronizing the quack doctor, the Christian Science healer, the faith cure, the man who cures by magic and etc. It is because he has not enough of the right kind of knowledge. If he only knew that many of his ills were imaginary or psychical, and that he would get well, he, in all probability, would not consult them. While it is true that for a certain class of physical patients Christian Science is of benefit, yet it can not be too strongly denied that organic conditions can be treated and cured by any of the above named methods.

When we disclaim against the iniquity of quacks, we should at the same time laugh to death the folly of those who seek them. They are the cause to a very large degree of quackery. They are as much answerable for the spreading of vice as the mother is, who feeds her favorite foal stolen sweets and wails over the misdeeds at the gallows. The followers of quacks and fads in medicine are the cause of quackery and fadism; they are the cause of many of the atrocious homicides that have been committed. One simpleton bears testimony to the virtue of a particular quack or a certain fad, another to his mysterious air, and

\*Read before the Fayette County Medical Society.

still another to his wonderful cures. Nothing was ever so sudden, so certain, or so marvelous as was the cure of Mrs. X. after her case was pronounced hopeless by the best physicians, notwithstanding the fact that she had never consulted a real doctor. His wonderful wonders, as Matthews justly called them, are the theme of the tea-table and the gossip of the nursery.

The witnesses are not to be withstood. One blows his penny-trumpet, another winds his horn, and a third cackles, a fourth brays, and the end is—what? Why, that another victim is added to the list, and the fame of the brute-deity extended. The proselytes of an idiot of this sort are its basest flatterers, but it must be owned, they are also efficient friends. They stop at nothing for his sake, having themselves taken his merits upon trust; they insist upon propagating them after the same fashion. They assure their friends that “the universal Antimorbus drops” have cured twenty thousand people in one year, all of them having been given up by doctors of the highest repute. A person laboring under an affection of the heart or lungs is induced by some puffing advertisement to try the wonderful efficacy of a particular pill. He does so, and finds himself no better; “persevere,” so reads the instruction—you can not expect results until all the “humors” have been driven out of the body by the pills. The patient acts upon such advice and swallows them by the tens and twenties at a time, until he finds himself advancing, as the Irishman said, backward; and it is not until the disease has obtained a firm grasp on his constitution that he discovers that he has been trifling with his very existence. Application is then made to the physician and a degree of astonishment is expressed when the patient is told that his disease is of a serious, perhaps fatal nature. Whom is he to blame but himself? He placed his life in the hands of a man totally ignorant of the first principles of medicine and swallows his nostrums, and then wonders at the result.

Why do medical fads and frauds get such a hold on the people? The answer is not hard to find, if we stop to reflect upon the fact that the practitioners of these fads and frauds get their cures by the same method and upon the same principles as did the doctor of the old school, i. e., faith cure—the psychic effect of the thing done, it matters not whether it be the giving of a little sweetened water—a dose of calomel—a Christian Science pow-wow—the laying on of the hands, or the removal of a growth by an osteopath or the adjustment of the spine by a chiropractor.

The principles of mind or faith cure are legitimately used by the honest doctor, as sug-

gestive therapeutics or psycho-therapy has been and is continuing to be studied by those who want to use it honestly and intelligently. The honest doctor realizes fully that abuse of this principle figures largely in the maintenance of the shyster—and it is the very foundation of all new schools and healing fads. This the people must be made to understand, or fads and frauds will continue to flourish. Much has been done already along the line towards enlightening the public as the vast majority of the people are now much better informed than formerly. The Woman's Clubs, social settlement organizations, the district nurse, boards of health, properly prepared articles for the daily press, public lectures, and in many other ways, and it is through such channels that the public should receive the information they need, as on these methods the best medical organizations and the best medical men have placed their stamp of approval. The time has passed when we can wrap ourselves in a cloak of professional dignity and assume an air of infallibility toward the public. Such a sentiment would go far toward clarifying the layman's mind and remove the many mystifying things that surround medicine and medical men, and would soon change the attitude of the laity toward the profession from one of suspicion to one of respect.

People apply to quacks in many instances for two reasons; first, because health is offered to them at a cheap rate; and second, like drowning men, when honest doctors give no hope, they catch at every twig. Thus, the love of life on the one hand and the love of gain on the other, create a tolerably good correspondence between the quack and the public.

The desire of health and ease, like that of money, seems to put all understanding on a level. The avaricious are duped by every bubble, the lame and unhealthy by every quack. Each party resigns his understanding, swallows greedily, and for a time believes implicitly the most groundless, ill-founded and delusory promises; and nothing but loss or disappointment ever produces conviction.

That quacks sometimes succeed when the honest doctor fail is undoubtedly true. An honest practitioner will not hold out to a patient, sinking under the influence of a mortal malady, delusive hopes of recovery; but the unprincipled charlatan says; “I can cure you; your disease is not fatal, only have faith in me and I will put your ills to flight.” Lord Bacon says: “That the imposter frequently triumphs at the bedside of the sick when true merit is affronted and dishonored, the people have always considered a quack or an old woman as rivals of true physicians.” Hence, it is that every physician who has not



greatness of soul enough not to forget himself, feels no difficulty in saying with Solomon, "If it is with me as with the madman, why should I wish to appear wiser than he is?" And as Butler aptly says:

"The world is generally averse  
To all the truths it sees and hears,  
But swallows nonsense and a lie  
With greediness and gluttony."

It is a singular thing in history that neither thought, study, apprenticeship nor preparation of any sort is necessary to accomplish the perfect quack. He springs out at once from obscurity and ignorance, completely consummate. Like Pallas, when she jumped all armed from the brains of Jove, so is the quack. He is cased all over in native brass from top to toe, armed in scales like the serpent and like him, he is not wanting in fangs. Other pursuits require time, patience, reading and long practice before the profession is allowed to be practiced; but the quack has none—he is utterly ignorant, in the vast majority of cases, of simples; the nature of the commonest herbs is unknown to him. And likewise is he ignorant of the alphabet of medicine. Yet he thrives and runs laughing through and at the world.

Every age has its peculiar delusion. It was Voltaire who said, alluding to the election for members of parliament, that "Englishmen went mad every seven years." Had he lived in the present day and witnessed the infatuation exhibited for every startling medical humbug, he would, doubtless, have felt disposed to think that a certain portion of the people had annual fits of mental derangement.

**Unusual Paroxysmal Tachycardia.**—Smith reports the case of a woman, about 55, who complained of repeated and often prolonged attacks of very rapid heart action which began about eight years ago. They sometimes continued for weeks. They were accompanied by dyspnea, but not by pain. They began and ended abruptly. An arterial pulse tracing showed a number of short periods of rhythmical tachycardia, interspersed by a few normal beats mixed with extrasystoles. In Smith's opinion the case is unusual in that it shows such a variability in the same individual, and that it must be differentiated from auricular fibrillation.

**Paratyphoid in Infants.**—In Blechmann's two cases, intense diarrhea was the predominant symptoms at first. Then came meningitic symptoms, compelling lumbar puncture, the ninth or tenth day. The infants recovered after a twenty-two or twenty-four day course. The fever curve was like that in adults.

## REPORT OF TWO DEATHS FROM THIRD INOCULATION WITH TY- PHOID PARA-TYPHOID VACCINE, SOME OBSERVATIONS ON TYPHOID INOCULATION.\*

By JESSE L. RUSSELL, Adairville.

At the recent meeting in Louisville of the County Health Officers, the cases which I wish to report were mentioned by the member of this County, Dr. S. S. McReynolds. After some considerable discussion it was requested that I prepare the report for publication in the *State Medical Journal*. With this explanation I will submit the report.

Mr. W. T. C. Age 53, with negative family and personal history of any importance or bearing on the case, was examined by me for life insurance and pronounced first class, and recommended for the amount of insurance applied for.

Two days following the examination he came in for his third typhoid para-typhoid inoculation, the results of which will be ascertained by the reports following. An autopsy was made with complete report shown below, except for the unimportant parts which were omitted. The question of the insurance being issued, death having occurred before the application was approved by the Home Office, being a factor in the reports and examination, will explain the reason for some of the reports to follow.

First: Excerpt from letter of Dr. J. A. Witherspoon:

This man had been previously treated by Dr. Witherspoon and an inquiry was sent him with the following reply: "Now in answer to the letter, which I am enclosing herewith, in the first place, the parasites mentioned are the *Ameba Hystolytica*. The symptoms were an ulcerated rectum with a systemic auto-intoxication.

Hoping this will satisfy your insurance company, as there is absolutely no excuse for them not paying the claim, as he was perfectly-sound man when he took out that insurance. I having checked his case up several months later. I know this to be true."

Signed, J. A. Witherspoon.

Report of Dr. F. B. Dunklin, of Haggard Clinic who did the autopsy:

I found nothing abnormal in the entire examination, that is, no more than you find in any post-mortem examination. The heart was in normal position, and in opening the pericardium a normal amount of straw colored fluid ran out. The arteries showed

\*Read before the Logan County Medical Society.

nothing abnormal. I looked especially at the pulmonary arteries and veins to see if there were any clots. There were none found. The lungs were of normal size and contained air. There was no evidence of any cutting off of any section of the lungs. On section microscopically nothing was noted. The organs of the abdomen showed no abnormality. Both kidneys were exposed, they were smooth, of normal size, no scars, the capsules stripped easily, and on cut section the secreting portion of the kidneys looked normal. This was proved of course by the microscopic examination, which was made by Dr. Terry. There was no microscopic evidence of any nephritis or disease of the kidney.

There was nothing that I could find in the post-mortem of this patient to explain his death. From the history and the fact that he had this dose of vaccine, his death was evidently due to a protein intoxication or anaphylaxis. X

Drs. C. E. King and B. T. Terry of Vanderbilt University did the special work of examination of the stomach contents and the tissues, and reported as follows:

"I am putting into writing the findings relative to the stomach contents, hypodermic syringe, and typhoid vaccine which you submitted to me through Dr. Terry for examination.

The stomach contents proved negative to all tests except for the phenol group. (Note, he took a Aspirin gr. V. after the reaction had been on him probably three hours). The substance proved to be salicylic acid. I made no quantitative test of it, but the amount was very small. I tested the toxicity of the vaccine to dogs, both by intravenous and subcutaneous administration. In neither case did I obtain any evidence of toxicity. The washings from the syringe also proved negative.

Signed, C. E. King.

I might add by way of explanation that the syringe, vaccine and all were gathered up and, untouched, taken to the laboratory for examination in order to clear any fault of them.

Dr. Terry made the following report:

"The heart weighs 265. The pericardial fat is present in moderate amount. There is no evidence of acute or chronic pericarditis. The heart is empty. The myocardium is of a good normal color. The valves are normal. The heart measurements are all normal. The coronaries show distinct arteriosclerotic change, but there are no constrictions seen and no emboli found. The heart is negative in the gross, having no evidence of cause sufficient to produce death. There is no evidence of chronic myocarditis.

Lungs negative, Spleen negative, Liver negative.

Kidney: Gross examination: From this kidney the capsule has been almost completely stripped. The surface is fairly smooth. On attempting to cut the kidney the remaining capsule strips off. It is thin and not attached to the kidney. Microscopic examination: The kidney stains well. The glomeruli are normal in size. They are slightly hyperaemic. What appears to be a little edema can be made out in Bowman's capsule. The convoluted tubules are close together but the blood vessels which show between them are also hyperaemic. The convoluted tubules stain well. There is no evidence of acute nephritis. No scars are seen in the cortex. A little edematous fluid is also observed here and there in the convoluted tubules but no casts are seen. No evidence of acute or chronic inflammation is observed. Except for this hyperaemia and a small amount of albuminous exudate in the glomeruli and convoluted tubules, the kidney appears normal. Certainly there is nothing in the kidney to explain the cause of death.

Microscopic examination of heart muscle: The cardiac muscle stains well. The striations are normal and distinct. There is no evidence of acute inflammatory change, either focal or diffuse, and no evidence of chronic myocarditis, focal or diffuse. The frozen section of the heart muscle shows a little fragmentation, but this is apparently an artefact.

Diagnosis: Normal heart muscle.

Cause of death not determined by the tissue examination removed at autopsy."

Signed B. T. Terry.

Manufacturer's letter: "We have your letter of April 9th, transmitting package containing fifteen ampules from a thirty ampule package of typhoid vaccine combined lot 3-480, control 24,397, and note your report that following the administration of the third dose of the vaccine to one of your patients, symptoms developed, and death occurred four and one-half hours after injection. I note from your letter you had previously used fifteen ampules from the same package without any untoward results.

We have consulted our records on this particular lot of vaccine, and find that it was prepared in the usual way and represents a very large lot of vaccine. We find further that all of the tests made with this vaccine show it to be sterile and satisfactory in every particular.

We have subjected a number of the ampules returned by you to sterility tests and find all the ampules examined by us to be sterile. We have injected into each of two guinea pigs 1 c. c. of the returned vaccine, and these ani-



mals have shown no reaction as a result of the injection.

There have been reported in the literature occurrences such as that reported by you following the administration of typhoid vaccine, in the majority of cases, however, death occurred a shorter period than in your case. The general conclusion in regard to these cases is that they are due to anaphylaxis, and the fact that in this instance the first injection was followed by a severe reaction, the second no reaction, and the third with fatal results strongly supports this contention.

While we deeply regret the occurrence we do not believe, and in this opinion we believe you will agree with us, that the vaccine itself was at fault; but that the patient for some reason had an acute sensitiveness to the injection of the vaccine as manifested by the outcome."

My letter to the insurance company:

"Gentlemen: At the request of your agent I am writing you relative to the case of W. T. C. I gave him a most thorough physical examination on the date he was examined by me for your company, and I feel that not many men past fifty-two years old, that would not be proud to make so good a showing. I found him to be normal in every way as the report will show. And as said, I was extremely cautious that nothing should be overlooked.

Two days following the examination for life insurance I gave him the third inoculation for typhoid fever, at about four P. M. I talked in the office with him for, I would suppose, about fifteen or twenty minutes. He was feeling fine and in the very best of spirits. I immediately, after he left the office, went on a long trip to the country and knew nothing of the severe reaction until I was stopped on the road home, and told to come as quickly as possible to see him.

I arrived at his home probably one or two minutes before the end. According to the history, given me by the family, he came home feeling very stiff and achy, every muscle and bone in his body, about 5 P.M. and then got very cold and chilly, and built up a hotter fire, became more chilly and achy until he began to have rigors. He grew worse and began to get cyanotic, had a chill, and pulse grew very weak. A preacher present did artificial respiration and he revived, and was in this condition when I arrived. I felt of his pulse and it was fairly good, and gave some directions to a nurse, called from one of the neighbors' home before I arrived, about preparing a hypodermic to give, all the time holding his pulse, when suddenly it ceased. It did not get weak, but stopped as short as severing a cord. His respiration continued on for a while, and we continued the artificial respiration, but of

no avail. Adrenalin, atropine and all known remedies, except heart massage were used to again start the heart but all failed.

The date of the first inoculation was Jan. 31, 1924, followed by a very severe reaction. The date of the second was one week later, not such a severe reaction following, and the third was given one week later. I might add, that as soon as this information was received at the Home Office, the insurance was paid."

Dr. J. M. Shipp, Smyrna, Tenn., writes the following:

"Your case was exactly like mine. My patient was in good health until I gave the third injection. He had no trouble from the first and second doses.

Age 19; health good, heart sound: No previous injection of vaccine or serum before the typhoid vaccine.

Third injection given at 5 P.M. At 8 P.M. I was called and found him with a temperature of 106, very rapid and bad pulse, looked as though he would die, but about 1 a. m., his temperature went down to 102. He seemed to be better until about 10 a. m. when his fever rose and he died at 1 p. m.

He looked like a man that had typhoid fever for three or four weeks."

My experience and observation do not substantiate the assertion by Russell and others, "that inoculation against typhoid is as effective as inoculation against small-pox," and that many people possess natural immunity against typhoid.

Some practitioners hold that the colored race is less susceptible to typhoid than the white race. I will dismiss this by saying that the experience of myself and the other practitioners in this section, would tend to show that they were all susceptible to the same degree.

Many susceptibles are not immunized by having had the disease, and are very prone to contract it again upon exposure.

To take up the first: Only very seldom do we see mentioned in articles of the subject, and in my observation, not at all in advertisements of manufacturers of serums and vaccines, the fact that the degree of sanitation practiced in the army has a vast amount to do with the difference in the number of cases of typhoid, of the recent war and those of 1898 and the period immediately preceding and following.

The common place statement is, "that typhoid vaccination has practically eliminated typhoid from the army."

In order that the reader may form his own opinions about the matter, I copy from Osler 1905 edition. Referring first to the Spanish-American War, "In ninety per cent of the

volunteer regiments the disease broke out within eight weeks after going into camp. In the opinion of the commission the most important factors were camp pollution, flies, as carriers of contagion and the contamination through the air in the form of dust.

*In the South African War, as in America, the disease was essentially one of the standing camps. Troops constantly on the move were rarely much affected.*

While contaminated water was no doubt an important factor, as it always is in camp pollution, yet certain of the conditions of Africa were peculiar. Fecal and urinary contamination must have been very common, as in the cooking, performed in the open air, sand entered largely into every article of food. As there was a perfect plague of flies, they were no doubt an important factor in the infection of both food and drink.

On the other hand, at the date of writing (Jan. 1905) it seems not improbable that the Japanese-Russian war may demonstrate the remarkable efficiency of modern hygiene if carried out in an intelligent manner. It is stated that in General Oku's army, from May 6th to December 1st, there were only 133 cases of typhoid fever.

Recent experimental study by Nichols and Stimmel at the laboratory of the Army Medical School in Washington has brought out several interesting points along this line.

First: Saline vaccine proved to be more effective than lipo-vaccine, sensitized vaccine or supernatant fluid vaccine.

Second: A relatively fresh vaccine gave better protection than an old one; the period of maximum efficiency being about the first eight months.

Third: Acquired immunity is a variable factor and depends somewhat on the dose of vaccine. A high degree of immunity can be produced by sufficient vaccination, but the immunity can be overcome if the infecting dose is large enough.

Fourth: Repeated doses give better immunity than a single dose. This probably explains the freedom from typhoid fever in the army where the men are vaccinated every three years for three consecutive periods.

Fifth: Of the three kinds of vaccine studied, the best protection is afforded by multiple doses of a saline vaccine.

Sixth: Plain typhoid vaccine gives no adequate protection against infection with the para-typhoid A and B bacilli.

And I take the liberty to add one that is my personal opinion. That different strains of typhoid left uncovered in a vaccine leaves the individual unprotected against such strains.

To substantiate the above I will give some examples of inoculated cases in this vicinity, collected from my own practice and that of my fellow practitioners, who have later developed the disease.

E. C., female, age 19; Previously inoculated six years and then three years respectively before being taken down with typhoid fever.

M. F., male, aged 16; was given last inoculation May 23rd, and was taken down with typhoid fever in the early part of July, same year. H. R., male, aged 11; about the time of completion of typhoid series was taken down with the disease.

J. L. R. (who is myself) At that time twenty-nine years old; First series of inoculations, September, 1912. Second series given October, 1914, and on February 26, 1915 went to bed for six weeks with typhoid fever.

L. K., female, age thirteen; Three months after being inoculated was taken down with typhoid fever.

At the present time Dr. W. R. Burr, Auburn, has a case of typhoid fever now convalescing, in a patient inoculated last fall.

I will copy his own words: "The patient I referred to at the Russellville meeting of our society as having recently had an attack of typhoid, and who had the vaccine last fall, is Mrs. C. McK. of this place. Her age is twenty-three.

Last September she had three inoculations of the triple typhoid vaccines, at intervals of ten days. No previous inoculations.

Her recent attack of fever was a severe one lasting six weeks. She ran a high temperature, and about the beginning of the third week, had three rather profuse hemorrhages. The vaccines certainly proved no protection to her."

All these patients were given typhoid para-typhoid vaccine. Even in the light of the above I find many people who confidently believe they are perfectly safe after a series of typhoid, para-typhoid inoculations.

Second: I notice mentioned in books on practice of medicine, that some families seem to be immune to typhoid infection.

I have noticed for several years, and am convinced that many people, in my opinion very many, possess natural immunity against the infection. According to my observation this runs in families to a great extent.

To illustrate I will cite some cases: The present water system of this town was completed in 1898 and the town was given a common water supply, from a spout spring, with the town on a hill one-half mile distant, on the water shed to the spring.

In 1911-12 in the winter one person, a negro, had the disease on this water shed, and



as reported, very little precautions were taken. As a result the water became infected with the result of many cases of typhoid in the town.

These cases were nearly all confined to certain families, or I might better say to certain family trees. Not particularly those living in the same house, so that direct contamination could be blamed, but those living in different parts of the town.

While many other families likewise exposed were entirely free from the disease. Chlorination was begun, but since has often been neglected and we have had other epidemics.

To illustrate my point: The Morrow family, consisting of three brothers and one sister, with separate houses and families and living in different parts of the town, have all had the disease, and many of the children in their families. These were not all sick at one time, but extended over a period of twenty-five years. In justice, I must say they didn't all get their infection in the town.

While the Conn family, consisting of three brothers and their families, living in different parts of the town and exposed in the same degree as the other families have not had the disease, neither have any of their children. It is very hard to reconcile this to the old idea of, "he just happened to not get a dose." To me it is a case of immunity naturally possessed. None of these mentioned as not having it had been protected by vaccine. I could cite case after case on either side to bear out my point, in residents of the town of from eighteen to twenty-five years.

Fourth: That many susceptibles are not immunized by having had the disease, and are very prone to contract it again upon exposure.

Examples: J. B. F., Sr. Had the disease at age twenty-three; very severe, hemorrhages complicating. At age forty-four had it again, severe, with heart complication. This man's father had typhoid twice, and died of senility. Finally. These cases occurred in Robertson County, Tenn.

Mrs. R. W. R. First attack age twenty-one. One other sister had disease at same time. At age twenty-four she moved to this town and had a very severe, seven weeks, attack.

H. M. Male, age nine first attack, severe. Second attack two years later, not as severe as the first. All confirmed by Widal.

Mr. H. First attack age twenty. Second attack age forty.

T. R. First attack age seventeen, severe long spell. Second attack age twenty-five, died of hemorrhage.

A. S. First attack age nine, severe. Second attack age twenty-three, mild. Many others in the family had it at this time. Third attack at age twenty-nine, three hemorrhages.

Many other examples can be had in this community to illustrate the above contention.

At the present time Dr. W. K. Smith, Adairville, Ky., has a patient living in the country out from here with the following history, obtained from him this morning. Mrs. G. E. F. age thirty-five, was treated by him in 1912 through a very severe, seven weeks, attack of typhoid, and at the present date, July 19, 1924, she is in her seventh week, with the second attack of typhoid fever.

In the light of the foregoing we must say it will be a great step forward when by test, as in diphtheria, and as it appears, in scarlet fever, we can determine the susceptibles and the nonsusceptibles.

If we are to remove Kentucky from the standing of the highest death rate from typhoid in the registration area in the U. S. it will be done by sanitation.

When it is considered a crime against humanity to use an open toilet, a dry well, or any other place in which the human excreta can not effectively be made innocuous; when we shall hold the common fly in the same dread that we do a tarantula; when we shall be as sure of the purity of our water and food supply, as William Jennings Bryan is of his grape juice, then, and then only, will we be raised out of the scourge of typhoid fever.

---

There is a definite group of sterile women through whose tubes gas can be passed with difficulty, or only after several attempts, or not at all, although the tubes are not sealed by adhesions, and are anatomically normal. The factor that prevents the passage of the gas in such cases is probably spasm of the sphincter-like circular muscle of the interstitial portion of the tube. The same factor can presumably prevent the entrance of spermatozoa into the tube, and so cause sterility. For the recognition of these, Samuel R. Meaker, Boston (Journal A. M. A., June 28, 1924), proposes the following test: A first insufflation is done without preliminary medication. If no gas can be made to pass through the tubes, or if gas passes only when the pressure has been raised to 150 mm. or more of mercury, a second insufflation is done a day or so later after the administration of benzyl benzoate. If, on the second occasion, gas passes through tubes previously impermeable, or if it passes at a pressure of less than 100 mm. of mercury in cases in which a high pressure was previously required, we can consider that an obstructive degree of spasm of the tubal musculature has been demonstrated as a factor in the case.

## PELLAGRA, CASE REPORTS.\*

By V. U. and R. C. Moss, Rockfield.

**Definition:** Pellagra is a systemic disease characterized by an erythematous eruption on the face, neck, back of hands and wrists, top of feet and front of legs, appearing in the spring of the year, accompanied by gastrointestinal disturbances and in the later stages of the disease by disorders of the nervous system, especially mental derangement.

**Cause:** There has been quite a bit of speculation as to the cause of pellagra. At first we were told that it was caused by eating maize, especially spoiled maize; maize that was infected with the fungus that causes smut of corn. Sambon thought it was transmitted by the sand fleas. Some thought hookworm had something to do with the cause. The general opinion at the present time is that it is caused by a faulty diet. Dr. Goldberger, Surgeon U. S. Public Health Service, has proven this, to be the cause. The eating of too much grain, whether it be corn, wheat, rice or oats, to the exclusion of other forms of diet. The person that is "finicky" about what he eats, can't eat this or that but must have his cornbread and molasses is very likely to develop pellagra. On the other hand those that eat a well rounded and varied diet consisting of lean meat, milk, fruit and vegetables will never have pellagra. Pellagra is found in families of the well-to-do as well as the poor but it attacks the "finicky" eater.

**Symptoms:** Pellagra is marked by three distinctive sets of symptoms, viz.; those of the skin, the alimentary tract and nervous system.

**Skin:** The eruption appears on the back of the hands and forearms, the neck (except under the chin), the face, tops of the feet and front of the legs. Near the final stage of the disease the eruption may be found anywhere on the body. The skin exposed to the sun's rays is affected first. Beginning as a pink color, it changes to a dark red or purple color becoming inflamed and hot, cracks open and may suppurate giving off a foul odor. During the winter the rash disappears to return again in the spring and summer.

**Alimentary Tracts:** Diarrhea; persistent sore mouth and throat, ptialism and "slobbering"; and symptoms due to digestive disorders such as weakness and emaciation. There may or may not be an elevation of temperature. There is usually some fever at some time during the course of the disease.

**Nervous System:** Vertigo; sleeplessness; parasthesias; cramps, ataxia; increased re-

flexes; motor weakness; melancholia; mania; terminal dementia; convulsions and finally death.

**Treatment:** The cause of pellagra being a faulty diet the prevention is obviously a well balanced diet.

First. Cut the cereals, bread, sugars, starches and fats to a minimum. Increase the nitrogenous foods. Lean meat, milk, beans, peas, green vegetables and fruits, bread made with soy bean meal and flour is permissible. Treat the diarrhea as you would in any case of diarrhea.

**Medicinal:** The medicinal treatment is disappointing. There is no specific. The symptoms must be treated as they arise.

**Arsenic:** Fowler's solution by mouth. Sodium Cacodylate intramuscularly at intervals of two or three days beginning with three grains and increasing up to ten or fifteen grains. (Children according to age). Iron in the most available form. Yarbrough recommends ten drops dilute Nitric acid in a glass full of water one hour before meal. He says that Cacodylate of soda is worthless, although he formerly highly recommended it.

**Climatic:** It is very essential that a person affected with pellagra stay out of the sun. He should wear a large brimmed hat and gloves to protect the skin from the sun's rays. It is always advisable to change to a cooler climate. Someone has recommended the following: Produce a large blister upon the skin of the patient, aspirate the serum and inject it subcutaneously.

The first four cases that I shall report are children all of the same family.

Case 1. Marlin Smith, ten years of age. According to the history given by the father, first signs began in the summer of 1914 when the child was only eighteen months old. Family then lived in Butler County, Ky. Skin eruption was on face, back of hands and back of head, which parts appeared to have been scalded. Later the skin on these parts peeled off. Bowel symptoms were severe, diarrhea continued all summer. At this time pellagra was not thought of. In 1915 family moved to Warren County, near Rockfield. This was the year we first saw the patient. The symptoms were quite severe. The eruption was on the back of hands, top of feet, face and neck. These parts were red, inflamed and swollen, later cracking open and discharging like some forms of eczema. There was a persistent diarrhea, difficult to check. The symptoms continued off and on until cool weather in the fall when they disappeared.

In 1916 symptoms were not severe. Same bowel trouble, not much eruption.

\*Read before the Third District Medical Society, Russellville.



In 1917 about the same as in 1916, 1918 still about the same, 1919 very little symptoms, 1920 patient was worse, 1921 there was just enough eruption to be noticed; some on the hands and under the eyes. He had some diarrhea and spells of sick stomach, in 1922 patient was worse.

In 1923 the eruption began to appear about the first week in March. First sign, spot on the forehead, then under the eyes, then on back of hands. Eruption became worse as summer advanced extending up the forearms to above the elbows, on the top of feet and front of legs to above the knees. About the middle of September the eruption began to subside and has almost disappeared. The back of hands and wrists are a little rough and there are two brown spots on the back of neck. There has been no marked disturbances of the alimentary tract, very little diarrhea and no mouth or throat symptoms.

However the nervous symptoms have been quite noticeable this season appearing soon after the rash. The child has staggering spells with a tendency to go to the left. Sometimes the head is drawn back. These spells only last a few minutes at a time. During the attack he seems to be dazed almost losing consciousness. He may have two or three a day, yet go several days without having any at all. Mentally he is somewhat below par. These symptoms have also cleared up since September. Stool was examined for Hookworm in August with negative results.

Case II. John Smith, age nine. Rash appeared in 1921, just enough to be noticed. In 1922 some eruption on face and hands, in 1923 the eruption made its appearance the first week in April, the face, hands, neck and feet being effected. This eruption began to clear up before the summer had gone, disappearing practically entirely. There has been no bowel or nervous symptoms. Stool negative for Hookworm.

William Smith, age six, a child of this family has never had any signs.

Case III. James Smith, age four. In the early spring of 1922, when three years old, child had a severe case of broncho-pneumonia; had diarrhea off and on all summer. Skin was a little rough on back of hands and under the eyes. In 1923 the eruption began to appear about the first of April. Has not been severe. No bowel or nervous symptoms. Back of hands and wrists are still a little rough.

Case IV. Virgie Smith, age two. The first signs of a rash began to appear in the spring of this year as follows: The face a little red, upper surface of feet red, rough and cracked open; back of hands a little red. She has

had very little bowel and no nervous symptoms.

Of the six children of this family there remain only two that have not shown some signs of pellagra. William, age six, and Elizabeth, ten months old.

Is it transmissible? Should the children be permitted to attend school?

Case V. White. In the summer of 1906 the wife of I. P. age forty, (two children) called me to look at a certain eruption on the hands and other parts. The backs of the hands, tops of the feet, back of the neck and the face were very red. Soon, in a few days, the red gave place to a very dark color; the skin of these parts looked like blood was extravasated under it. In about a week the skin became dry and cracked. The tissues beneath were red and tender. Some parts became very sore, a moist and fetid condition coming on. These symptoms grew worse in summer, better in winter. In 1907 this patient took sore mouth and sore throat which did not improve any. The skin of the back of the hands, tops of the feet, back of the neck and face remained much chapped, red and sore. An uncontrollable diarrhea set in about the last of 1907 and continued on through 1908, sometimes better, sometimes worse. In 1908 symptoms of insanity appeared and continued into 1909 which year she was sent to the lunatic asylum and died there a few months later. There is quite a disturbance of the mind in all cases toward the terminal stage of this disease.

Case VI. White: After the death of Mrs. I. P. the husband married a sister of his former wife. (No children). She took the pellagra but in a milder degree. The eruption was present but not in so violent a form. This second wife had sore mouth and sore throat, indigestion, some diarrhea, emaciation and symptoms of lunacy. She was sent to the lunatic asylum and died there about eight months later. This case, while apparently milder than No. 1, ran a more rapid course, insanity setting in earlier and death not so long delayed.

Case VII. In 1908 I waited on a mulatto woman, age forty-five, living on Blue Level, a widow suffering from acute pellagra. The backs of the hands, tops of the feet, back of the neck and face were fiery red and within forty-eight hours the eruption became black. By the next day the skin of the affected parts became tender and swollen, cracked open, rough and beginning to ooze a foul smelling fluid. This patient had an irregular elevation of temperature ranging from 101 F. to 105. Soon the affected skin became gangrenous. This condition of the skin spread to other parts, such as the thighs, the vulva, the arm pits and other parts that had not been ex-

posed to the sun. A very sore mouth and throat appeared in about the fourth week. Indigestible troubles and diarrhea supervened and grew worse to the end. Marked delirium showed up, early death taking place about the sixth week. Parts of the body exposed more or less to the sun are first and all the time affected with the skin eruption.

Case VIII. The fourth case of pellagra I encountered was a male, age 60, a mulatto school teacher. The symptoms were not so pronounced as was observed in the first three persons, but the backs of the hands, face, back of the neck were quite red, becoming darker as the affection progressed becoming rough and scaly. The sore mouth and sore throat were present, also the diarrhea became troublesome about the fourth month of the malady. Finally the nervous symptoms appeared and imbecility was pronounced toward the end which terminated in death at about the twelfth month.

A man, age 50, married, laborer, very poorly and badly nourished, was the sixth case, which would not be called a typical one, for the skin symptoms were not prominent, there was a redness of the backs of the hands, face and back of the neck but not at all in winter and early spring. Yet as time went on he had the usual sore mouth and throat, diarrhea supervened, would get better then worse, better again and return again lasting as long as life lasted. There was much wasting of the body and feebleness of the mind a few months before death which occurred at the end of two years.

From the report of these cases it is quite noticeable that the adults ran a much more severe course and all died. The children are much improved but not cured. An early diagnosis and treatment is very essential.

---

Observations with the Fouchet test were made by Frederick A. Speik, E. N. Liljedahl and Marie A. Falk, Los Angeles, in a series of 115 cases. Hyperbilirubinemia, as shown present by a positive Fouchet test, was found in 67 per cent. of patients with cholecystitis; 42 per cent. showed a positive macroscopic test for bile in the clear serum. Hyperbilirubinemia is present in some patients with gastric and duodenal ulcer, syphilis, tuberculosis and other diseases. Increase in the bile content in serum can in many instances be detected by a simple observation of the clear serum; it was noted in 52 per cent. of all cases who showed a positive Fouchet test.

## SOME PERSONAL EXPERIENCES WITH CHRONIC DUODENAL ULCER.\*

By S. S. McREYNOLDS, Russellville.

When an obscure member of the profession like myself proposes to write about a medical subject he should be able to give an excuse for his action. Two reasons have moved me to inflict this paper upon you. First. I believe duodenal ulcer is a commoner disease than you think it is and that it is being treated under other names and in a way which does neither the patient nor the doctor much good. Second. It was determined a number of years ago that I had an ulcer of the duodenum which had then been giving symptoms for several years.

I think it not presumptuous to say that fifteen or twenty years of intimate conscious acquaintance with this condition, during which time I have been both the doctor and the patient have qualified me to some extent to judge of the correctness of the teaching on this subject as found in our text book.

Perhaps you may infer from this statement that I have some radical ideas to advance or some criticism of the authorities to offer; not so, on the contrary, I can testify that so far as my experience goes modern writers have given a very clear account of this condition.

In this short paper no account will be taken of duodenal ulcers due to tuberculosis, burns and scalds, nor to those of the new born, etc., only chronic duodenal ulcer will be considered.

An examination of the literature on this subject will disclose the fact that until recent years about the only attention given it in books on practice was a short sketch at the end of the chapter on stomach ulcer and consisted in a simple statement that ulcers of the duodenum were due to the same causes and amenable to the same treatment as ulcers of the stomach.

About twenty-five years ago this disease began to be recognized as a separate malady and some effort made to formulate a set of symptoms by which a diagnosis could be made in the life of the patient rather than making it from a perforated ulcer at autopsy after the victim had died either of hemorrhage or of peritonitis caused by perforation of the ulcer.

Gastric ulcer has long been a well recognized pathological entity and the awakening of the professional mind to the fact that every stomach ulcer was a potential cancer, along with the development of gall bladder surgery, has led in the last few years to a greatly increased number of operations upon the stom-

---

\*Read before Third District Medical Society at Hopkinsville.



ach and gall bladder and consequently to the opportunities to inspect this region. The frequent finding of a duodenal ulcer which had been the cause of symptoms for which operation was undertaken has led to the development of its surgical treatment. In the connection with subject of cancer it is proper to say here that duodenal ulcers do not take on malignancy as frequently as stomach ulcers. In fact they practically will never become malignant.

**Etiology:** Among the suggested causes of duodenal ulcer have been mechanical injury, associated with feeble nutrition, which permits the gastric juice to digest the mucous membrane, anemia due to chronic diseases, embolism and excessive acidity of the stomach contents. Perhaps ulcer of this region is produced by the same causes as ulcers elsewhere and the causes will be different in different cases.

**Symptoms:** In a typical case of chronic duodenal ulcers are rather definitely and easily recognized and occur in a remarkably regular order. They may be enumerated as pain, vomiting, hemorrhage and acidity and tenderness.

Pain is a symptom which most often brings the patient to the doctor and if a valuable history is to be elicited it is very important to get a correct account of the pain as to its character, location, time of occurrence, how long standing and whether there have been intervals of freedom from pain. If after a careful questioning you find that the pain (or indigestion as they usually call it) has been giving trouble for several years, begins three or four hours after eating, continues to meal time, is relieved by taking food or soda water, that the attacks last from a few days to several weeks, followed by a period of relief from symptoms for a month or two, to be followed in turn by another and similar attack, and the character of the pain is like that of hunger, you have the typical pain of duodenal ulcer.

Location of the pain is rather indefinite, in my own case I have often had pronounced pain and was unable to put my finger on the spot. To say that the pain is in the upper right quadrant of the abdomen is about as definite as I could state it. Pain is rarely severe, rather dull and more like a sensation of extreme hunger, accompanied by a restless nervous impatience or discontent and a desire to chew gum or to eat or drink something.

In a symposium on this subject at the meeting of the A. M. A. two years ago Doctors Bevan and Sippy of Chicago and others discussed at some length the cause of the pain some assigning as a cause the passage of food over the ulcer, others the presence of the acid

secretion. I am inclined to think with Doctor Bevan that the immediate cause of the pain is intravisceral tension for the reason that the relief you get from taking alkalies such as soda, etc., and comes not when you swallow the drug, but when you belch up the gas, that is when you relieve the tension. I have also observed that emptying a full bladder sometimes gives great relief. Another thing and this I have not seen mentioned in any writing which gives relief from pain is lying on the face with a pillow under the stomach. In two cases I have found that the patient had adopted this plan of relief though neither of them mentioned it until asked about it.

It is a peculiar fact that men have duodenal ulcers about twice as often as women and that the attacks are more apt to occur in cold than in hot months, in fact many cases seem to be almost well in the summer.

Rarely will you find a patient who is able to give definite answers to questions as to the time of pain with reference to taking food, that is, just how long after eating the pain comes and this is one of the most important questions in the whole history. One question they can all answer is this, are you more comfortable before meals or immediately after meals, when your stomach is full or when it is empty, if he feels worse after eating you may almost surely eliminate duodenal from your diagnosis. On the other hand, if he is relieved by taking food, you will do well to look carefully into the history with a view of eliciting the other symptoms. A good plan is to have your patient keep on his usual routine of diet, exercise, etc., without treatment and to note carefully by the clock the time of this pain. After establishing time of this pain throughout a day or two, have him take a teaspoonful of soda in a glass of water and see if it gives relief.

As a rule the victim of duodenal ulcer will appear well nourished, have a good appetite and take food with a relish. Occasionally you will find one who will not take as much as he wants, because he thinks he has "stomach trouble" and thinks he ought not to eat.

Vomiting is a late symptom if present at all and is entirely absent in a majority of cases, it is said to be caused by obstruction of the pyloric orifice of the stomach due to contraction of scar tissue in partially healed ulcers. Vomited matter may contain blood as will be noted under hemorrhage.

Physical examination of the patient is relatively unimportant and usually sheds very little light on the case. In fact one writer on this subject went so far as to say the diagnosis could be made by correspondence. Aside from tenderness to touch, and that is indefinite, there are no physical signs except

late in the case when the diagnosis should have already been made.

If tenderness is present it is exaggerated at the time of pain, that is, you will find the tenderness and pain both at say eleven o'clock A.M., then after the noon meal the pain and tenderness will both disappear. Why this is so I do not know, but I know it is true.

This brings us to the consideration of acidity. Most patients with chronic duodenal ulcer present a set of symptoms usually ascribed to hyperacidity. In fact it is now the opinion of some of our best authorities that the condition described by many text book authors under the title of hyperchlorhydria is really chronic duodenal ulcer and the correctness of this opinion has been proved by operation in these cases. It has been shown that only one-half the cases with these symptoms which have been subjected to actual daily chemical examination of stomach contents and afterwards proved at operation to have duodenal ulcer really show an excess of hydrochloric acid and many of them have less than normal acidity. In my own case analysis of stomach contents over a period of twenty days showed marked hyperacidity. Chemical examination of stomach contents is of little value.

Hemorrhage is to be regarded rather as a complication than a symptom. Surgeons say it is a witness of neglected opportunity. The frequency of hemorrhage has been variously estimated. Probably all ulcers bleed in some quantity ranging from slight loss of blood to fatal hemorrhage. When bleeding occurs it may be discharged either in the vomit or feces, usually the latter. I can testify from experience the severity of hemorrhage of the bowels.

About ten years ago at eight o'clock one hot morning, I had a slight feeling of prostration with some vertigo which I attributed at the time to the heat. I kept up and going through the day and late in the afternoon had a typical tarry stool followed by fainting and unconsciousness for several minutes. The following day had several more of same kind of bowel discharges and was confined to bed for two weeks after which I was unable to get to work for about six months.

It may not be out of place here to say that the stool characteristic of the hemorrhage high up in the intestinal tract is not merely dark, as may be caused by some drug or article of food, but is black and once seen is not easily forgotten. Another fact which I am unable to explain is that the faint in these cases comes when the bowels move, which is evidently some time after the escape of the blood from the vessel. This I have verified by three cases of my own knowledge.

X-ray findings. Most patients are subjected to this method of diagnosis at some stage of their illness, but the light shed on the case is often disappointing, the most constant and significant findings are in my humble opinion a departure from the normal outline in the first part of the duodenum and a shortening of the emptying time of the stomach.

At different times over a period of five years I was rayed by four different operators and all of them reported it hypermotility of the stomach and the absence of a normal duodenum cap. In some rare cases the ray after a bismuth meal will show clearly the ulcer cavity filled with bismuth. The ulcer is usually located in the first two inches of the duodenum.

Diagnosis. The three conditions most apt to confuse the diagnosis are gall stones, stomach ulcers and a dyspeptic form of chronic appendicitis.

In ulcer of the duodenum, the pain is worse when the stomach is empty three or four hours after eating relieved by alkalies and food, vomiting rare, pain is dull and simulates feeling of hunger, radiates to the right of the median line, ceases for weeks and returns and you have blood in the feces.

In stomach ulcer food aggravates the pain, worse after eating, at least within first two hours pain is in the median line, radiates to the left costal border, blood if at all is in the vomit.

In gall stone pain begins suddenly, ends suddenly, no relief by taking food or alkalies, pain is severe requiring hypodermic of morphine, is attended with prostrations and sweats, radiates to the right shoulder blade and you have nausea and vomiting and no hemorrhage.

In appendicitis you have tenderness over McBurney point, pain has no relation as to time of taking food, no marked periodicity and you will usually find other symptoms that will differentiate it from duodenal ulcer.

Treatment is medical and surgical. The most successful medical treatment seems to be the so-called Sippy plan which is carried out as follows: Put the patient to bed and give small quantities (about three ounces) of cream every hour from seven in the morning to nine in the evening with an alkaline powder between each two feedings, that is, give the milk at seven and the powders at seven-thirty and then the milk at eight and so on through the day. No other food is taken during the treatment which lasts two weeks after which the powders are continued and the diet gradually increased as to quantity, variety and length of intervals between feedings. The powders referred to consist of sodium bicarbonate, heavy calcined magnesium and bis-



mouth subnitrate, the doses being in proportion to the acidity of the stomach. The idea is to rest the digestion and neutralize the acidity and the ulcer will heal. In many cases this treatment will work wonders. I took this treatment in 1917, at Presbyterian Hospital, Chicago, and was much improved by it, being relieved of pain for a year or more. Statistics show that a certain per cent of these medically treated cases recur. Such was my unfortunate experience.

Surgical treatment consists of excision of the ulcer if small, or gastroenterostomy, most cases requiring the latter. In this operation a loop of the intestine at about the distal part of the duodenum is brought up and stitched to the floor of the stomach and an opening made from the stomach into the intestine. The theory is that this new opening allows the acid gastric juice to pass directly from the stomach to the jejunum while the ulcer area in the proximal portion of duodenum is bathed in the alkaline bile and pancreatic juice thereby promoting the healing of the ulcer.

For the past ten or twelve years this operation has been pretty generally practiced by surgeons everywhere until today it is a well established surgical procedure with statistics enough on record to justify the expectation of satisfactory results. Perhaps the percentage of cures may be conservatively estimated at eighty or ninety per cent, with an operative mortality around two per cent with a hospital confinement of four weeks.

Referring again to my own experience I will say I kept going the rounds of getting better and worse under medical treatment over a period of fifteen years until seven months ago when I had gastroenterostomy performed. Recovery from the operation was prompt and complete and so far relief of pain has been all I could expect. However, I think it yet too early to say what final results will be as to cure of the ulcer.

---

**Spinal Subarachnoid Block.**—An analysis of fifty-three cases is reported by Ayer. In these cases it was possible to demonstrate an interruption in the free interchange of fluid in the spinal subarachnoid space. In twelve cases the block appeared incomplete. It is suggested that in every diagnostic lumbar puncture the aqueous manometer should be used, and dynamic studies carried out (especially the effect of jugular compression) as part of the routine examination of the spinal fluid. When block is partial or doubtful, combined punctures, as more delicate and certain in their interpretation than lumbar puncture alone, are indicated.

## THE VAGINAL ROUTE IN GYNECOLOGICAL SURGERY.\*

By JOHN R. WATHEN, Louisville.

From a study of the more recent foreign literature, it appears that the vaginal route in gynecological surgery is attracting much attention from operators and clinicians abroad. Compared with the abdominal method its field is more limited, and there should be some clear-cut reasons for its adoption in special cases where it seems best suited.

We will leave out of consideration such operative procedures as perineorrhaphy, uterine curettage, trachelorrhaphy, etc., which necessarily belong strictly in the domain of vaginal work, and consider more especially the operations which can be done by either method and attempt to show the indications, advantages, and results of the vaginal route in selected cases.

Certainly vaginal operations require special training. I may say, a more minute operative experience. It is not always easy to expose the vaginal vault and force the way to the peritoneum in order to view the pelvic organs. The advantages gained, however, are sufficient reward for the pains taken, even more when we consider that after vaginal operations the patients convalesce quite as quickly as after normal childbirth, earlier than after the most simple, bloodless, and aseptic celiotomy.

On the other hand, celiotomy has claims over the vaginal method on account of its bringing before us with greater clearness pathologic conditions of the entire peritoneal cavity. This we freely admit. Experience has taught us, however, that abdominal incisions are not absolutely safeguarded against serious tissue stretching. Even with perfect asepsis and primary healing of the incision, the physiologic process of pregnancy renders the resulting scars objects of attention. If, on account of accident or for some unknown reason, healing does not occur by first intention, the question of cicatricial tissue stretching presents itself in a most alarming manner.

While it is true that master operators have long series of perfect healings, even they cannot feel certain that there may not be some infection of the abdominal incision, and this danger increases if the operation be upon inflammatory structures. This is present in all cases where drainage of the field of operation becomes necessary. In addition there is another complication which must be considered as most serious, endangering late results even after ideal primary healing of the

\*Read before the Jefferson County Medical Society.

incision and after a perfect primary convalescence,—I refer to the terrifying frequency of intestinal and omental adhesions to the abdominal incision as well as to the stump from which the tumor has been removed. These adhesions, and the significance of their consequences, have been demonstrated by the observation of our patients over many years. No modification in method is at hand to cause them to disappear with certainty. Neither the careful handling of the peritoneum during the operation, the so-called peritonealizing of defects, the attempt to influence the peritoneal layers by oils, vaseline or citrate solutions in contact with them, nor early peristalsis, will invariably prevent or counteract these complications. Adhesions are a constant source of danger in celiotomy when compared with their infrequent occurrence in vaginal operations.

Of course when the vaginal method is employed the pelvic organs are not in any way insured against the formation of similar adhesions, but from our own experience,—when called upon to perform celiotomy for upper abdominal pathology after a previous vaginal operation had been done,—we have always been impressed with the fact that adhesions were seldom found in the pelvis. Post-operative hernias are of frequent occurrence after celiotomy.

That the vaginal route demands consideration in only a limited field of gynecological affections, is to be acknowledged. In our own work probably ninety per cent of such operations are by the abdominal route, nevertheless in the other ten per cent or more the vaginal route is not only best suited to the case but is the only method to be employed. The boundary line does not depend upon whether the tumor lies in the pelvis or not; it depends upon its movability. Even small tumors which are firmly adherent should not be attacked by the vaginal method; large tumors may be removed by morcellation or puncture by the vaginal route; but if adhesions are present it is better to select the abdominal method.

If, in the vaginal operation, we unexpectedly meet with adhesions, what prevents us from discontinuing it and ending with an abdominal section? Only a few times have we ever been compelled to resort to this procedure, and there was no resulting injury to the patient.

The vaginal route seems particularly indicated for the treatment of retroflexion, combined as it is in the majority of instances with uterine procidentia, cystocele, rectocele, and lacerated perineum.

The transposition operation first advocated by Watkins or Wertheim, to support a pro-

lapsed urinary bladder and uterus by means of the uterus turned and placed under the bladder, furnishes an excellent method for the cure of this distressing condition. The subjects thus afflicted are usually fat women past the menopause, and for various other reasons are not good subjects for abdominal operations of any kind whatsoever.

In women also who are very fleshy and have small or medium-sized myomatous uterine tumors, and who from repeated hemorrhages have become very weak and anemic, the vaginal route is the safest and best procedure, as these patients would suffer severe shock from abdominal section; but they withstand vaginal work exceedingly well, as any anesthetist of experience with such cases will bear witness.

You may ask, why not use the roentgen-ray or radium in such cases, to which I would reply that many of these cases occur in women between thirty and forty years of age and the premature menopause is not desirable. A vaginal hysterectomy in such cases should of course preserve the ovaries. Large pelvic abscesses and many other lesions offer indications for the vaginal method.

The vaginal route has furnished about as favorable statistics in uterine carcinoma as the abdominal, but this is not saying much. It seems to be now conceded that radium offers a prospect for cure which is equal to or perhaps better than that afforded by surgery in this class of cases, so far as it concerns the end-results and freedom from operative mortality, which necessarily accompanies any radical surgical procedure.

## DISCUSSION.

**Guy P. Grigsby:** I have enjoyed the paper by Dr. Wathen and his pictures illustrating the posterior vaginal route in gynecological surgery. I have read some of the literature on the posterior method but have never tried it myself. The fact is that it does not appeal to me very much based on what I have seen of it. The results from the anterior route in cases of procidentia, with cystocele, rectocele, etc., have been so satisfactory that personally I have not been inclined to change my method of operation. The only difficulty I have encountered, and this has happened in only a few instances, has been in dissecting the vesical wall from the uterus. In the majority of cases, however, there has been no trouble during the dissection. Unless care be exercised in making the dissection on either side there may be a troublesome oozing. Of course this ceases after the wound is closed, but may obscure the field during the operation.

The interposition operation in dealing with procidentia, which is practically always com-



plicated with cystocele, to my mind is the most ideal operation that can be done. I know of no other class of cases in which I have had such satisfactory results and grateful patients as following the interposition operation.

In cases of submucous fibroid, where the uterus is freely movable, in tumors involving the cervix where dissection is necessary, vaginal hysterectomy is by all means the procedure to be selected. Permanent results in the way of relief of symptoms in cases of pronounced cystocele I do not believe can be equalled by any other method of procedure. I believe we should resort to the vaginal method of approach oftener than has been our custom. In selected cases it is certainly superior to the abdominal method.

**O. E. Bloch:** Like Dr. Wathen, I believe there are certain cases in which the vaginal route is much better than the abdominal in dealing with gynecological affections. I disagree with him, however, as to the indication for this method in fleshy women. I would much prefer doing an abdominal operation on a fat woman than a vaginal. Regardless of what Dr. Wathen has said, the shock after vaginal operation is sometimes tremendous and the results are very unpleasant after vaginal operations in fleshy women. As a rule they recover quickly and satisfactorily after abdominal section.

I wish to express myself as being greatly disappointed with the results of the interposition operation. My patients have remained free from symptoms for periods ranging from three months to a year, then returned complaining of their former troubles. My results from the so-called Watkins-Wertheim procedure have been so uniformly unsatisfactory that I have practically abandoned the operation.

**Fulminating Encephalomyelitis.**—Two cases of fulminating encephalomyelitis are reported by Meleney from Peking, both of which resembled, clinically and microscopically, those occurring in the epidemic of so-called "Australian X-Disease" of 1917 and 1918. The patients each survived only three days after the onset of the acute symptoms, and died on consecutive days. There was no known contact between them. Microscopically the lesions consisted of focal accumulations of mononuclear and a few polymorphonuclear leukocytes, neuronophagia, perivascular and diffuse infiltration with lymphocytes, and nerve cell degeneration. The whole brain stem and spinal cord were involved in both cases, and in one case the cerebral cortex was involved as well.

## AN UNUSUAL CASE OF CONGENITAL INTERNAL HYDROCEPHALUS.\*

By THOMAS F. HALE, Louisville.

My reasons for presenting this case before the society are twofold: in the first place, the symptoms were so typical as to make the diagnosis unusually difficult, and in the second place, an opportunity is provided for the introduction of a diagnostic method I have not heard discussed before this society, namely, pneumo-ventriculography.

The patient, a child of twenty-two months, was brought to my attention almost four months after the onset of his illness, and the following history was obtained from his parents:—on Jan. 23, 1923, at the age of seventeen months, patient suddenly fell over backward from a standing position, striking the back of his head against the floor, shortly after which he went to sleep. He slept about twenty minutes, then woke up "cross," and remained so until the mid-afternoon of the same day, when he suddenly lost consciousness, and began to twitch in the left hand and in the left side of the face; the twitching soon became generalized and lasted about an hour, but unconsciousness persisted for about thirty-six hours. During the following two weeks, twitching recurred in the left hand and in the left side of the face occasionally, but was not attended by any disturbance of consciousness. At the end of this time, he had another severe seizure, the twitching beginning in the left hand and the left side of the face, becoming quickly generalized, as before, but persisting for six hours; the attending unconsciousness lasted about forty-eight hours. During the following eight or nine weeks, he had similar attacks at intervals of about two weeks. On April 12, he had an attack which seemed to be worse than the preceding ones; following it, he is said not to have slept for three days; his head was constantly nodding up and down; and he seemed to have lost the use of his hands. He had no other convulsive attack for nearly a month; then, on May 8, he began to vomit; vomiting recurred repeatedly during that and the following day, after which he began to "jerk" as before. He continued to "jerk" for about six hours, when suddenly, on May 10, he got "stiff" all over, his head and back bent backward, the right upper, and both lower extremities "drew up," and his face got "spotted"; he remained in this condition until May 12, when he "limbered up" on the left side. From that time until the present (May 18), he has moved the right arm not at all, and the right

\*Clinical report before the Jefferson County Medical Society.

lower extremity very little, though he moves the extremities of the left side freely, though purposelessly; the head and eyes have been kept turned toward the left. On May 12 he seemed to be having some difficulty in swallowing, his breathing seemed "hard and fast," he began to cough, and was found to have a temperature of 103 degrees Fahr. Patient is said to have been normally born, without instruments; he is the first child of healthy parents; he was breast fed for a year, after which time he was put on the usual soft diet; he began to sit alone at the age of ten months, but has never tried to crawl; though apparently healthy, well nourished, and fully and symmetrically developed, he has never tried to walk, though about the time his illness began he was beginning to stand erect by holding to a chair; his legs always seemed "wobbly" while doing this, however; and though he has seemed bright and alert, he has never tried to talk. His condition has been variously diagnosed as cerebro-spinal meningitis, epilepsy, St. Vitus' dance, and pneumonia.

On physical examination, patient was found to be a symmetrically developed, but somewhat generally wasted white male about two years of age, free of eruptions or other cutaneous discolorations. He lies in bed on his back, his right extremities rigid in extension, the thumb of the right hand in adduction, the fingers of the right hand flexed at all joints, and the right hand flexed on the forearm; head and eyes are turned strongly toward the left; the extremities of the left side are in constant motion, the fore-arm being brought up over the body to the face and then down, in a rotatory motion, the fingers being alternately opened and closed, and the thigh flexed on the abdomen synchronously with the rotatory motion of the upper extremity. The contractures of the right extremities and of the neck can be readily overcome, but they tend to recur immediately; passive motion of the left extremities meets with no resistance. Tendon reflexes are slightly exaggerated, and about equally so on the two sides; tapping right achilles tendon causes brief clonus of right foot, but otherwise no ankle clonus on either side; plantar irritation flexor on the left, with no appreciable response on the right; cremasteric and abdominal reflexes not obtainable. Pupils equal, symmetrical, centrally placed, and react promptly and fully to light, the contraction on the right being perhaps slightly less forceful than that on the left; the palpebral fissures are equal; no protrusion nor recession of the eye-balls; the right lid closes less fully than the left. The right side of the lower face moves less completely than the left. The tongue lies motion-

less in the mouth without deviation or apparent atrophy. Expiration is affected by rapid shallow coughs; inspiration is spasmodic and jerky, and occurs about sixteen times to the minute. Eye-grounds seen with difficulty, but there is certainly no marked swelling of either disc. Patient appears to be conscious, but is entirely unresponsive; hence, tests of sensation and of voluntary motor power are impossible. Temperature (axillary) 98 degrees Fahr. No convulsion seen.

A diagnosis of internal hydrocephalus, of undetermined etiology, was made, and the patient admitted to hospital for further observation.

On May 21, patient was found to be extremely weak and pale; his temperature 106, his respiratory rate between 50 and 60; his pupils were extremely and equally dilated; he seemed moribund, but after 30 c. c. of fluid (clear, and under great pressure) was removed from the left lateral ventricle, his condition rapidly improved.

Air was then introduced into the ventricle, and X-ray plates made (which will be shown by Dr. Bayless presently), to determine whether either ventricle had been encroached upon by a possible cortical tumor.

Serological and bacteriological examination of the cerebro-spinal fluid proved negative.

Ventricular drainage provided symptomatic improvement on three subsequent occasions, but the basic condition of the patient remained unchanged, until his death, July 17, of circulatory weakness.

## DISCUSSION.

**B. W. Bayless:** Ventriculograms are made after injection of air into the ventricles, either directly into the ventricles through the fontanelles, through a trephine opening, or through a lumbar puncture. From a lumbar puncture the air passes upward through the subarachnoid space into the cisterna magna, then through the foramen of Magendie into the fourth ventricle, from the fourth to the third through the aqueduct of Sylvius, from the third to the first and second through the foramen of Monro. As much as 300 c. c. of air has been injected into the ventricles.

In this case the air was injected directly into the left lateral ventricle. About 20 c. c. of fluid was withdrawn at a time and then air was injected, using a three-way syringe, until a total of 60 c. c. of fluid was withdrawn and the same amount of air injected. Plates in the lateral and antero-posterior positions were made. The skull is normal in size and the thickness of the bones is normal. Some air passed from the left ventricle to the right, the left is more distended than the right probably because the right was not as well drained and of course not as much air en-



tered it. The third ventricle is well filled with air. The ventricles are larger than normal but no irregularity seen.

After twenty-four hours only a small amount of air remained in the ventricles which shows how rapidly it is absorbed.

**L. Wallace Frank:** I had the privilege of seeing Dr. Hale's patient and made the last ventricular injection. About two years ago I stated that in my opinion ventriculography was a dangerous procedure. I now want to retract that statement. I do not believe it is dangerous when properly done. In the diagnosis of brain tumors and other intra-cranial lesions and these are the cases in which ventriculography is used, cases that cannot be diagnosed by the neurologist, where other means of diagnosis fail, then I believe this method of investigation is certainly worth while. The procedure is recommended from two standpoints: first in the location of the tumor, and after localization it gives an idea of the depth of the tumor in the brain; when the growth impinges on the third ventricle we know that little can be done for the patient in an operative way and unnecessary operations are thus obviated except decompression for relief of pressure. Second, in many instances it makes the diagnosis positive, something which cannot be said of other methods of investigation.

In the case reported the roentgenogram shows that the obstruction occurred just at the outlet of the fourth ventricle, not in the ventricular system or in the aqueduct of Sylvius but at the point where the fluid comes from the fourth ventricle and passes into the basal cisterns. I believe primarily the patient may have had a meningitis and as a result there was blocking of the foramen of Luschka and Magendie at the base of the brain with resulting internal hydrocephalus. Had the fourth ventricle projected beyond the wall of the lateral ventricle and blocked the opening there we would have concluded that the patient had a brain tumor. However, a tumor in that situation is inaccessible and cannot be removed. When the tumor involves the pons it is absolutely useless to do anything for the patient in an operative way except as a palliative measure. It is in the differential diagnosis of cases of this type that ventriculography is of great value.

In the operation of ventricular puncture certain points must be borne in mind. The dura should always be opened before the needle is inserted. It is inadvisable to introduce a needle through the intact dura, especially if it is to go into the anterior horn, as there is danger of puncturing one of the large paechonian bodies which would of course produce subdural hemorrhage and pressure. It is always better to make a trephine opening in the skull and incise the dura to see definitely where the needle is being

introduced. There are two sites of puncture being used, the anterior, in the frontal region, and the posterior, two and one-half cm. to the right or left and two and one-half cm. above the external occipital protuberance. The needle then enters the posterior horn which I think preferable because it traverses a region where there is less likelihood of damage to important centers. The ventricular fluid is removed and air immediately injected the amount of air being kept well below the quantity of fluid removed. In Dr. Hale's case 120 c. c. of fluid was withdrawn and between 60 and 80 of air injected. It is advisable to remove a small amount of fluid at a time then inject air in slightly less quantity carefully measuring each. Convulsions have been produced by the introduction of more air than the patient could stand.

**B. F. Zimmerman:** Surgical procedures for the relief of hydrocephalus have as a rule been unsatisfactory. I have had some little experience with the various types of the affection and the results have not always been pleasing.

I want to emphasize what Dr. L. W. Frank has said in regard to the importance of ventriculography in these cases and the very slight degree of danger that attends the operation. We occasionally see a rather considerable amount of reaction following the procedure, in the way of elevation of temperature, etc., at least that has been my experience. Other symptoms have been noted such as usually accompany or are associated with temperature elevation. However, there have been no alarming symptoms in the cases coming under my observation. I regard ventriculography as practically a harmless procedure.

I prefer the anterior route with the Kocher incision moving the needle in such manner that the fluid can be obtained first from the ventricle injected and secondarily from the opposite ventricle until the entire quantity of ventricular fluid has been aspirated as far as possible replacing it with air in small quantities as Dr. Frank has stated. If care is exercised to inject no more air than the amount of fluid withdrawn there will be no pressure symptoms.

The diagnosis of hydrocephalus is very interesting and can usually be accurately made, whether it is of the so-called obstructive or internal type or the external type. Two methods are employed, one is by injecting dye into the ventricle with subsequent puncture of the spinal canal and withdrawal of the spinal fluid. In cases where the obstruction is in the cortex and not in the ventricular system dye will appear in the spinal fluid ordinarily within thirty minutes. In obstructive cases the dye cannot pass from the ventricular system into the subarachnoid space and consequently will not make its appearance in the spinal fluid. I believe a more

accurate method is the injection of air with subsequent roentgen-ray examination. By the injection of air into the ventricle and subsequent spinal puncture it will frequently be noted that air escapes through the spinal needle thus confirming the diagnosis without a roentgen-ray picture of the ventricle.

As to the treatment of these cases: I can only say that in my experience which has been rather limited, that only one patient has been cured. That was a case of the type Dr. Hale has reported. I have had two cases of this character where the obstruction was apparently in the foramina in the roof of the fourth ventricle. One patient died on the table before completion of the operation. The other was one in which there was a distinct cyst in the roof of the fourth ventricle undoubtedly the result of obstruction of the foramen of Magendie, and excision of a portion of the cyst resulted in complete relief of the child.

Cases of internal hydrocephalus resulting from obstruction in the aqueduct of Sylvius are to my mind practically incurable. I recall a case of this kind which I saw four years ago, a girl aged five years who had always been healthy, gradually developed symptoms of increasing intra-cranial pressure evidently from tumor formation. An operation was performed in the cerebellar region and no evidence of obstruction was found in the fourth ventricle. I may say that prior to that it had been shown that dye would not pass from the ventricle into the subarachnoid space. The child died about two months after the operation and at autopsy the aqueduct of Sylvius was shown to be completely closed by a tumor. In such cases I doubt very much whether anything whatever can be done. In fact in internal hydrocephalus I think our only hope of relief by treatment is in cases where the obstruction is in the foramina and that is the type to which this case apparently belonged, in other words where the hydrocephalus is due to meningitis. In the other type where the obstruction is apparently in the cerebral cortex relief might possibly be obtained by resection of the choroid plexus. This I have done in only one instance from which improvement was practically nil. The procedure is not particularly difficult but is one fraught with some danger to the child at the time of operation. I have tried callosal puncture in these cases but the results have not been satisfactory, the progress being the same as without treatment. The spinal fluid is absorbed as we know from the subarachnoid space. Callosal puncture does nothing except to establish an opening into the subdural space which is abnormal and in such cases the fluid is not absorbed. It was not in those particular instances in which I have done the operation. The result has not been satisfactory, the cases progressing

and terminating fatally just as if nothing had been done.

It seems to me the only two operations that are rational, are those suggested by Dandy, i. e., that of removal of the obstruction and establishment of a new foramen in the fourth ventricle in cases of the internal type of hydrocephalus, and that of resection of the choroid plexus where there is interference with the absorption of fluid in the subarachnoid space.

**John J. Moren:** Dr. Hale's report has been very interesting to me. I had in my office today a gentleman seventy years of age, who last August suddenly developed without apparent cause a convulsion limited to the right side of his face. It was in appearance a typical Jacksonian seizure. How many of these attacks he had a day I cannot say. This lasted for a number of weeks. When in my office today he said he was now able to do as much work as at any time in his life. What caused these attacks I do not know.

Several years ago I saw at the Children's Hospital a case similar to the one described by Dr. Hale. The child fell from a baby buggy, striking the back of its head. A short time afterwards it began to have unilateral convulsions, being worse in the face and arm, and less in the leg. The attacks were more or less continuous, the affected side during intervals was in a state of plasticity. The child finally died, after lingering a number of weeks. Necropsy was performed by Dr. Leon K. Baldauf. No gross pathology was found in the brain. No microscopic study was made. There was no dilatation of the ventricles.

In the case reported by Dr. Hale the striking symptoms to me were the localized convulsion on one side and spasticity on the other. The question arises did the child have a cortical involvement primarily following the injury, and the internal hydrocephalus was a secondary condition. As the child did not develop rapidly in early life he may have had large ventricles, but I do not believe that the present picture is dependent upon internal hydrocephalus, but followed the fall which resulted in encephalitis with external hydrocephalus.

Two or three years ago I saw with Dr. Gardner a case of encephalitis lethargica which had spasticity on one side and chorea athetoid movements on the other side. In a recent article on decerebrated rigidity a similar case was reported and thought to be a lesion near the basal ganglia. This is of interest after recalling what Dr. Wallace Frank stated about a possible defect about the third ventricle.

**Thomas F. Hale (closing):** I wish to thank the gentlemen for their discussion which I have enjoyed very much. As to the point made by Dr.



Moren: Of course the idea of irritation being responsible for the motor manifestations was quite natural, but in this case the veritative phenomena first appeared on one side, while the spastic and paralytic phenomena developed on the other. Had there been a focal point of irritation, paralytic symptoms would have appeared on the same side which first manifested the irritation, but in this case the conditions were reversed. This state of affairs is rather typical of that type, of congenital internal hydrocephalus, in which the head does not undergo the usual enlargement. This child's head did not present the appearance of the usual type of hydrocephalus; the skull was not thin and there was no bulging of the fontanelles. It is quite characteristic of congenital internal hydrocephalus for focal symptoms to appear now on one side, and again on the other. Unfortunately necropsy was not permitted in this case.

The subject of congenital internal hydrocephalus is interesting mainly from the viewpoint of diagnosis, as already stated the disease is almost always incurable. The patient has a congenital defect, vital resistance is markedly lowered, and the disease gradually progresses to a fatal termination no matter what is done.

Obstructive hydrocephalus of the acquired type, due to tumors and other surgical lesions, in which the obstruction can be localized and removed, is of course curable. It was hoped we would find such a state of affairs in the case reported but this did not prove true. The diagnosis of congenital internal hydrocephalus was indicated by the fact that the child did not develop as rapidly as most children of his age do, he could not walk, he started to crawl very late; he could barely sit up at the age of ten months, but could neither crawl nor walk. He had no strength and could not stand without assistance; physically he was not fully developed. Had this child suffered from internal hydrocephalus due to some acquired cause his physical development would more than likely have been normal.

There was no reason to suspect previous meningitis; the child appeared to be in fairly good general health; had never suffered from the ordinary diseases of childhood; there was no history of tuberculosis; the spinal fluid contained no bacteria; the Wassermann was negative. There was nothing in the family history or previous personal history to account for the development of hydrocephalus. It seems to me we are justified in concluding, on basis of the findings I have reported, that this was a case of congenital internal hydrocephalus, and as previously stated these cases are rarely cured.

## TREATMENT OF DIABETES MELLITUS.\*

By JOHN WALKER MOORE, Louisville.

No disease has been more thoroughly investigated than diabetes mellitus. The study of this disorder has not only brought to light many heretofore little understood physiologic conditions involving the capacity of the body to care for sugar, but it has also developed a growing knowledge of the intermediary metabolism of protein, fat and carbohydrate. In passing, it may be added that the facts acquired in the study of this disease have accomplished much along scientific lines to dispel the rapidly going spirit of empiricism in modern medicine.

The foundation of modern knowledge on the subject of diabetes was laid in 1890 by Von Mering and Minkowski, who extirpated the pancreas in dogs and demonstrated that such animals became diabetic.

Up to 1914, when Allen introduced the principle of starvation, the treatment of diabetes was of a bizarre nature. We read of the benefit derived from the so-called but- of the benefit derived from these-called buttermilk, sweet milk, oatmeal, and potato cures. It was left for Allen, however, on the basis of many fasting experiments with depancreatized dogs, to explain the results of the apparent amelioration of symptoms following the above cures. It was he who introduced the vigorous regime of fasting until the diabetic patient became free from urinary sugar and from acidosis.

Allen took the stand that diabetes was not an inherently progressive disease, and that the progressiveness observed in the past was due chiefly to hydropic degeneration of islands, the result of functional overstrain entailed by incorrect diet and, to less degree, by occasional injuries from intercurrent infections.

The announcement of the Allen undernutrition treatment attracted attention second only to that centered upon insulin today. The principle had for its conception an involvement of total metabolism rather than the universal view of disturbance of sugar metabolism alone.

Allen's original plan of treating diabetes was never generally accepted, for the reason, according to the author, that the doctrine was never generally understood. However, a more probable cause for its sum-totum acceptance, lay not so much in the wishes of the physician, but rather of the patient, who as a rule, protests strenuously to the hardships of starva-

\*Read before the Louisville Medico-Chirurgical Society.

tion. Due credit should be given to the author of the undernutrition treatment, for this doctrine alone is responsible for the present day methods of using minimal diabetic diets.

In 1921 Newburgh and Marsh (1) published their startling results with diets high in fat. Contrary to Woodyatt's (3) suggestion that if the ratio of fatty acid to glucose is greater than 1.5 to 1 acidosis will develop. Newburgh and Marsh (1) showed in a series of 190 cases, that acidosis did not occur, even when the fatty acid ratio of 2.5 or 3 to 1 was attained. These results were explained by some interesting *in vitro* experiments performed by Shaffer (2), in which he showed that when glucose was added to test tubes containing aceto-acetic acid in presence of hydrogen peroxide, alkali, proper conditions of temperature, etc., aceto-acetic acid was rapidly oxidized. He found that one molecule of glucose oxidized two molecules of aceto-acetic acid when the latter was present in excess.

Since the monumental discovery of insulin by Banting and his collaborators, one can scarcely dispute the statement that patients with the most severe and hopeless diabetes, can, by proper administration of this hormone, be miraculously restored in weight, strength, comfort, and usefulness. Insulin is not a cure for diabetes, and regardless of the marvelous effect produced by its use, great stress must be laid on the dietetic management.

In the management of a successful diabetic diet, one has to consider the following points: (1) The carbohydrate content, (2) the protein content, (3) the fat content, and (4) the total calorie content.

**CARBOHYDRATE CONTENT:** The reduction of carbohydrate in the diet of a diabetic is always attended with clinical improvement. It has been shown by Woodyatt (3) that sugar acts as a stimulant to the sugar-burning mechanism, and an excess of this substance stimulates a diseased pancreas to the point of fatigue and thereby lessens its function. Theoretically, then, reduction in the glucose supply should relieve the diseased pancreas and give it a chance to recuperate.

**PROTEIN CONTENT:** The amount of protein sufficient to maintain nitrogen equilibrium should be used. Wilder has shown that an excess of protein exerts a specific depressant effect on the ability of the organism to utilize glucose. Wilder, Boothby, and Beeler (4) have demonstrated that the relatively high specific dynamic action of protein produces an undesirable elevation of the basal metabolic rate.

Marsh, Newburgh, and Holly (5) have shown that two-thirds gm. of protein per kilo

body weight is sufficient to maintain nitrogen equilibrium, provided the total calorie intake is great enough to supply the metabolic needs of the body. By the use of large quantities of fat they have been able to satisfy the total calorie requirement of their patients and keep them in nitrogen equilibrium on the small amount of protein allotted them.

**FAT CONTENTS:** The prevalent assumption which postulates that diabetic hyperlipoidemia is dependent on the excessive ingestion of fat, is unwarranted. We have in support of this view the work of Marsh and Waller. These Ann Arbor workers selected a number of different types of diabetes mellitus, varying in age, severity of the disease, duration of diabetic symptoms, and in degree of acidosis. In twelve patients studied, it was found that, not only was there no increase in the lipid content of the blood during the period of observation on high fat diets, but in patients in whom a hyperlipoidemia existed when they first came under observation, the total fat fell to approximately normal levels.

The indispensable requirement for diabetic lipemia is the existence of active severe symptoms in form of glycosuria, and strange to say, in severe cases where glycosuria has been abolished by diet, the patients never develop an extreme degree of lipemia, however high the fat intake may be. The explanation of this phenomenon is not clear. Suffice it to say, it is not due merely to excess of fat in metabolism.

**TOTAL CALORIC CONTENT:** It has been our custom, in establishing a maintenance diet, to supply from forty to fifty per cent increase in the number of calories over basal requirements.

From what has been said in foregoing, one naturally concludes that the optimal diabetic diet is one which will (1) prevent glycosuria and hyperglycemia; (2) provide just sufficient protein to maintain nitrogen equilibrium; (3) prevent abnormal ketogenesis; and (4) contain sufficient calories to maintain life.

In the treatment of the various types of diabetes, roughly speaking such types as mild, moderately severe and severe diabetes, we have been following, in the Louisville City Hospital, for the past year, more or less definite regime. As rules are made to be broken we do not consider our rules more, nor our patient's condition less, binding when an awkward occasion arises.

**TREATMENT OF MILD AND MODERATELY SEVERE DIABETES:** Generally speaking, when a diabetic patient enters the hospital, the plasma bicarbonate and blood sugar determinations are immediately made. Should these determinations, together with the history and



physical findings, classify the patient either as a mild or moderately severe diabetic, we put him on either the 900 calorie high-fat diet, which contains protein—20 gm., earbohydrate—14 gm., and fat—88 gm., or 1,400 calorie high-fat diet, which contains protein—29 gm., earbohydrate—20 gm., and fat—138 gms., and fluids of some sort up to 3,000 c. c. daily. The patient is kept on this diet until his urine is sugar free, and his blood sugar level in the neighborhood of normal. (Less than 200 gm. per 100 c. c.) Should the diet fail to accomplish the above demand within a period of three to four days, insulin is given twice daily in doses sufficeint to satisfy our goal.

After the state of aglycosuria has been accomplished and the blood sugar level fallen to within the neighborhood of normal, we proceed to estimate the earbohydrate tolerance. This is determined by adding to our initial high fat diet, 10 gms., of earbohydrate in form of five per cent vegetables. The earbohydrate is increased 10 gms. daily until sugar appears in the urine on two succeeding days. If, at any time, the five per cent vegetables become too bulky, the substitution of ten per cent or fifteen per cent vegetables is permissible. When sugar first appears in urine we estimate the blood sugar in order to establish, if possible, the renal threshold. After establishing his glueose tolerance, we put patient on the 900 calorie high-fat diet, and keep him on it until his urine is sugar free and the fasting blood sugar within normal limits. Our next step is to place patient upon a maintenance diet.

*Maintenance Diet.* It has been our poliey for the past two years in establishing the optimal diabetic diet to use a minimum amount of earbohydrate, just sufficeint protein to maintain nitrogen equilibrium, the greatest amount of fat possible within the limit of ketosis and sufficeint calories to satisfy normal calorie requirements.

These requirements are satisfactorily filled in the low earbohydrate, low protein, high fat diets advoated by Newburgh and Marsh. A list of these diets is given in table 1, showing the total available glueose values and the fatty acid to glueose ratio.

Table 1. Newburgh High-fat Diets. (1).					
	Protein	Fat	Carbo- hydrate	Total Calories	Ratic Glucose F H G
No. 1.	20.51	87.62	14.6	929	34.65
No. II	28.75	138.42	20.31	1442	50.8
No. III	34.31	174.71	29.8	1828.8	67.2
No. IV	53.62	232.75	36.36	2454.8	90.7

In Table II is charted the normal calorie requirements of adults in various stages of activity.

Table II. Normal Caloric Requirement. (6).	
ADULT	Calories per lb.
At Rest.....	11 - 14.
Light Work.....	16 - 18.
Moderate Work.....	18 - 20.
Hard Work.....	20 - 27.
CHILDREN, AGES	
2.....	36.
6.....	31.
12.....	23.

It is evident therefore that the selection of a maintenance diet resolves itself simply in determining the patient's calorie requirement, from table II and the optimal diet from table I.

While table 1 has listed only four main diets, it gives the general scheme of Newburgh's feeding. As a matter of fact, Newburgh's entire list of diets ranging from 900 to 2,454 calories, are fourteen in all, and there is a gradual proportional increase of all the constituents from one diet to the other.

The above outline of routine treatment of mild and moderately severe diabetes has been used by us in the Louisville City Hospital (save for use of insulin) for the past two years. We are all united in the opinion that our results have been universally better than when we used Allen's fasting method of treatment. Fasting is unpleasant and exhausting to the patient, and we will take issue with anyone who claims that he can prevent a starving diabetic patient in a general medical ward from stealing food sometime or other. Time and time again, we have accumulated voluminous laboratory data, only to be thrown in the waste basket as the result of innocent stealing of a starving patient. Then too, the doctor must be considered, when we select a routine diabetic treatment. In a hospital with sixteen or more rotating internes, the majority of whom have firmly made up their minds to become surgeons, it is impossible to get more than fifty per cent interested in the treatment of diabetic patients. And I dare say fifty per cent will not be interested long if you began to talk to them about metabolism, ketogenic—antiketogenic balance, etc. The long and short of it is that the patient will fare much better on the general medical ward, as well as in most urban and rural districts, if simple and adequate methods are followed.

So much for the treatment of uncomplicated mild and moderately severe diabetics. Should in the course of treatment of these types of disease, acidosis develop, whether it be the result of the patient not eating all of the required food, or to some intercurrent in-

fection, we institute immediately insulin therapy. We waste no time in bringing the plasma bicarbonate back to within normal limits. If the acidosis is moderately severe, we will say the plasma bicarbonate around 30 vol. per cent, we discontinue our prescribed diet, and institute insulin and glucose therapy three to four times daily until the acidosis disappears. After the disappearance of acidosis, which should usually be brought about within twenty-four to forty-eight hours, we put patient again on the original diet, in the prescribed dietary regime.

**TREATMENT OF SEVERE DIABETES:** When the diagnosis of severe diabetes is certain, in that the patient is restless, drowsy and slightly dyspneic, and the plasma bicarbonate well below thirty vol. per cent, it is advisable to give 20—40 units of insulin. Subsequent injection of insulin is given every one or two hours with the oral administration of glucose or orange juice and glucose, in the proportion of 1 gm. of glucose for each c. c. of insulin. As soon as the acidosis disappears, we carry out dietary treatment as is advised for moderately severe diabetes.

**TREATMENT OF ADVANCED COMA:** When there is severe acidosis, and the patient is either in stupor or unconscious, with typical air hunger, both insulin and glucose should be given intravenously in from 120 to 300 c. c. of water or salt solution in dosage of 40 to 60 units of insulin and 40 to 60 grams of glucose. This procedure should be repeated in two hours and thereafter according to condition of patient. Again, as in treatment of severe diabetes, as soon as acidosis disappears we institute our general dietary regime.

We offer the foregoing regime in the treatment of diabetes with no pretense of originality on our part, but as a compilation of the original work of many investigators. We have used the high-fat diets for some time, and are of the opinion that they satisfy the conditions necessary in producing all the requirements for preventing progressiveness of the disease, as no other method of feeding has done. We believe we have, in a measure, simplified the method of dietary treatment.

The treatment of diabetes has been improved but not simplified by insulin, and neglect of strict dietary care should be condemned.

In closing we wish to emphasize what we believe to be a fact; that a diabetic patient is not receiving the proper treatment, if his blood sugar is allowed to remain high, even though his urine is free of glucose.

#### BIBLIOGRAPHY.

1. Newburgh, L. H. and Marsh, P. L.: Arch. Int. Med. 1920, 26, 647.
2. Shaffer, P. A.: Antiketogenesis I and II. Jour. Biol. Chem. 1921, 4, 533.

3. Woodyatt, R. T.: Arch. Int. Med. 1921, 28, 125.
4. Wilder, R. M., Boothby, W. M. and Beeler, C.: Jour. Biol. Chem. 1922, 51, 311.
5. Marsh, P. L., Newburgh, L. H. and Holly, L. E.: Arch. Int. Med. 1922, 29, 97.
6. Am. Jour. Med. S. C. 1924, 167, 586.

## MASTURBATION IN GIRL OF EIGHT. CASE REPORT.\*

By JAMES W. BRUCE, Louisville.

The following is reported because of the difficulties encountered in its management and to ask for suggestions. The patient is a girl now eight years of age who is believed to have begun the practice of masturbation when five years old. This pernicious habit is said to be more common in girls than boys and also more difficult to overcome in the former than in the latter. In this case I have tried several methods which have proved more or less satisfactory in others and have failed to correct the habit.

The child has become malnourished and nervous from frequent practice of the habit which it is supposed began three years ago. At that time she was living with her grandmother, an aunt, her father and a younger brother. Her home surroundings were very unsatisfactory. About six months ago the father re-married, and it was then discovered that the child was a victim of this habit. The step-mother is a splendid woman and is doing everything possible to help the child. It is the greatest compliment to her when I say she has the confidence of the child to the extent that the little girl will tell her when and how many times she masturbates each night, etc. The act is performed usually during the night with the aid of her hands, although occasionally it has been detected during the day while the child was sitting on the edge of a chair. In the morning when she comes to breakfast looking unusually pale and "hollow-eyed" the mother will ask her "how many times last night" and the child will tell her. It is astonishing the frequency with which the act is practiced, not less than three or four times every night.

I have tried mechanical restraint without benefit. First a bandage was placed about her neck to which her hands were fastened so it was thought she could not lower them. This method is suggested by Kerley, but it was a failure in this case, she worked her hands loose some way and continued the practice. Then I tried mittens made smooth on the inside and rough outside so she would traumatize herself if she tried to masturbate. That also failed as she tore the mittens off. She

\*Clinical report before the Louisville Medico-Chirurgical Society.



goes to bed at night with every good intention of not masturbating, but before morning she has done it three or four times.

I gave her an anesthetic and separated some rather dense adhesions about the clitoris and removed an accumulation of smegma. This has been successful in a few cases previously observed. Whether the benefit resulted from the psychic effect of the anesthetic rather than separation of adhesions I do not know. After this slight local trauma, of course she did not masturbate for several days because of the soreness, but later the practice was resumed. A rather strange feature about the case is the absolute candor with which she talks to her step-mother about the matter.

I would appreciate any suggestions that may be offered as to what can be done in this case. I am aware persistent masturbation is notoriously hard to handle. If the habit is not stopped this child will probably land in an asylum, become a nymphomaniac, or something similar.

I have hesitated about advising amputation of the clitoris. I have thought possibly the application of radium, the roentgen-ray, a local caustic, or cautery, might be of benefit.

#### BILATERAL RENAL TUBERCULOSIS.\*

By W. T. BRIGGS, Lexington.

A study of the voluminous literature on renal tuberculosis will convince any unprejudiced mind that unilateral tuberculosis should always be treated by nephrectomy provided the general condition of the patient is such that he can undergo safely such a major procedure. When however, there is a question of bilateral involvement, or when bilateral involvement is certain but the various functional tests show the disease is much more extensive on one side, we find a lack of unanimity as to the best course to pursue. Because opinions are divided about this phase of the subject I am reporting as briefly as possible the following three cases, not in the hope that they will help settle the matter but in the belief that a frank discussion of this will benefit all of us.

Case 1. L. B. Farmer, act. 43, Referred by Dr. H. M. Boxley.

Five years ago he was in a tuberculosis sanatorium for three months; when he left he weighed 200 pounds. He has had no pulmonary symptoms since and held his weight until urinary symptoms commenced nine months ago. At first there was only nocturnal and diurnal frequency but later he noticed pus and blood and still later dysuria

and tenesmus. No renal pain until at least two weeks after entry into hospital.

Physical Examination: Shows a tall, emaciated; weak looking sallow complexioned individual. His teeth show pyorrhea. The ocular reflexes are normal. A slight arcus senilis is present.

Lungs. Examination by Dr. Bradley shows no active tuberculosis.

Abdomen: Left kidney is large, somewhat tender at lower pole. No tenderness over the right which cannot be felt.

Rectal: Prostate normal but hypersensitive. Ureters cannot be palpated.

Genitalia: Phimosis. Fissures and induration at preputial orifice. No evidence of tuberculous epididymitis.

Blood pressure 120-78. Temperature 97. Pulse 120. Respiration 20.

Urinalysis: Shows cloudy urine, Specific gravity 1.015, No sugar, Marked trace of albumin, large amount of pus, few red blood cells, no casts, no tubercle bacilli. No growth on cultures.

Blood Examinations: Hemoglobin 56 per cent—Color Index 0.7. Leucocytes 11,300. Differential Count normal.

Wasserman negative.

Blood Chemistry: Urea Nitrogen, 15 mgs. in 100 c. c. Creatinins, 2.1 mgs. in 100 c. c.

Phthalein (Intramuscularly): First 70 minutes, 40 per cent. Second 60 minutes, 16 per cent. Total, 56 per cent.

Radiograms made on several different occasions failed to show outline of right kidney but always showed the large left kidney.

Cystoscopic Examinations: Four unsuccessful attempts were made to catheterize the right ureter but the opening could not be identified even when indigocarmine was entering the bladder.

Bladder capacity less than 30 c. c. when cystoscope was in use. Novocaine in the sacral hiatus did not produce anaesthesia.

The patient was rapidly losing ground; pain developed in the left kidney for the first time two weeks after admission and simultaneously the temperature which had been running slightly above normal, rose to 102 degrees and the urine became less cloudy, all of which pointed to a temporary blocking of the left ureter. The pulse varied from 100 to 130.

Operation was decided on after explaining to patient and family the desperate nature of the case, emphasizing the fact that the right kidney might be infected even though its function was good.

Under gas and ether nephrectomy was performed with some difficulty and great shock. However, he responded to stimulation and when he left the hospital four weeks later

\*Read before the Fayette County Medical Society.

the frequency was markedly improved. When last seen six months after operation the nocturia was seldom more than five.

In cases of this type and more especially in those having no localizing symptoms Keyes advises lumbar exposure and palpation of the ureter. If it is thickened, then nephrectomy. Others advise ureteral catheterization through the opened bladder, while Richard O'Neil advises extraperitoneal exposure of the ureter at the pelvic brim. All of the methods are open to objection since the ureter on the better side may not be thickened if the tuberculous process is just commencing. In most cases, even when ureteral catheterization is satisfactory, the presence or absence of tubercenolosis in the better kidney cannot be absolutely determined. If such were the case I believe the percentage of permanent cures would be more than sixty per cent.

Case II. C. W. McH. aet. 40.

This patient came into my office with the request that I remove his right kidney which was causing much pain. The history showed he had suffered with vesical symptoms for four years and that two years ago he had commenced taking treatments of the bladder for the intolerable frequency and pain. He had suffered pain in the right renal area for two years. Two months ago he consulted a very competent urologist who catheterized the left ureter several times and found no evidence of disease on that side but could not make a catheter pass into the right kidney. After the last examination the condition was pronounced bilateral and he was refused operation.

In view of this history I refused to cystoscope him unless the phthalein and blood retention test were satisfactory.

Physical examination: Small well developed man. Normal weight about 145 pounds. Present weight 125. Durations of loss several years. Blood pressure 104-64. Temperature 101. Pulse 90.

Lungs: Examination by Dr. Bradley showed no active tuberculosis; this was confirmed by X-ray plates.

Abdomen: Tenderness anteriorly and posteriorly over right kidney. Left kidney not felt and not tender.

Rectal: Prostate is nodular and plainly the seat of tubercle; neither vesicles nor ureters felt.

Genitalia: No evidence of tuberculous epididymitis.

Radiograms of urinary tract made by Dr. Lewis pronounced negative.

Urinalysis: Turbid amber, Albumin trace. No sugar, sediment slight, no red blood cells. Many pus cells, no tubercle bacilli, but a few

gram positive bacilli. Repeated tests failed to show the tubercle bacillus.

Blood Chemistry: Urea Nitrogen, 14 mgs in 100 c. c. Creatinine, 1.5 mgs. in 100 c. c.

Phthalein (Intramuscularly): First 70 minutes, 46 per cent. Second 60 minutes, 10 per cent. After seeing the phthalein and blood chemistry reports I decided to cystoscope. The right ureter could not be catheterized, the urine through the left catheter showed no pathological elements and 15 per cent of phthalein was eliminated in 18 minutes.

Since the patient refused further cystoscopic examinations right nephrectomy was performed without any shock. The kidney was practically destroyed by tubercenolosis.

The frequency is much less annoying, there is no pain in the back, he has attained and held his normal weight although shortly after leaving the hospital he developed a bilateral tuberculous epididymitis. For this I operated removing the right epididymis and the left testis since the process extended into the testicle on this side.

What the eventual outcome will be I cannot say. The frequency will probably continue on account of the prostatitis. The urine, however, before the testicular operation was macroscopically clear and microscopically showed only an occasional pus cell and no tubercle bacilli. Best of all the patient is satisfied and can work.

This case brings up the question of whether tubercle bacilli do not at times pass from a diseased kidney into the circulation and out through the good kidney. We know this happens at times when only the lungs are diseased.

Case III. Miss N. E. aet. 20, Referred by Dr. Lyen.

Urinary symptoms commenced two years ago with a moderate hematuria and mild attacks of left renal colic. The attacks of colic stopped but the frequency and dysuria continued for six months when she passed a rather large flat sharp edged ureteral stone. After the stone passed the frequency became less marked but persisted and had gradually grown worse. On several occasions she has passed blood and now has pain most of the time in the left kidney region.

Physical Examination: Well nourished, well developed young woman. Normal weight 124. Present weight 110. Duration of loss two years.

Abdomen: No masses, no rigidity nor tenderness, neither kidney palpable.

Rectal: Uterus in normal position. Adnexa not outlined—no tenderness.

Lungs: Pronounced free of tuberculosis by Dr. Kavanaugh.



Radiograms of urinary tract show a dense shadow 15 mm x 5 mm in pelvis in course of right pelvic ureter.

Catheterized bladder urine is amber with some shreds, marked trace of albumin, no sugar, many red blood cells, moderate number of pus cells. Stained sediment shows many tubercle bacilli.

Cystoscopy: Bladder capacity 120 c. c. Mucosa inflamed and rough, trigone unusually well defined, especially the ureteral papillae. Right opening presents slightly red margins but no induration or thickening. Easily catheterized with a No. 6 leaded catheter. Left ureter apparently does not open on papilla but higher up and posteriorly there is a wide gaping opening showing no contraction. Catheter passes 15 cm into this opening but there is no escape of urine.

Radiogram with shadowgraph catheter in situ shows the ureter 2 cms from the shadow previously shown.

Urine collected from right kidney shows many red blood cells (traumatic), moderate number pus cells, no tubercle or other bacilli, no growth on culture, phthalein 15 per cent in 12 minutes.

So far the case looked like an ordinary unilateral tuberculosis with some compensatory function on the right side. Blood chemistry showed urea nitrogen 16 mg. and creatinin 2 mg. per 100 c. c.

However, in order to investigate the left kidney further another cystoscopic was made ten days later. Indigocarmine was injected intravenously shortly before the cystoscope was introduced. It showed dense jets on the right side but nothing appeared at the left opening and there was no flow through left catheter. Since there was no leakage around the right, the left catheter was withdrawn and the secretion from that side collected across the bladder; it was only faintly tinged. Both specimens showed many blood cells, few pus cells, and while the right showed only a trace of albumin the left showed a large amount. Both right and left urines showed many clumps of tubercle bacilli.

This case could easily have been operated on for unilateral tuberculosis; as a matter of fact there would have been no second cystoscopy had the catheter on the left drained. It shows how guarded the prognosis should always be in these cases. And since there was relatively little pus the question brought up in connection with the previous case arises again, e. g. does the healthy kidney at times throw off tubercle bacilli without becoming involved. Another question is the advisability of further examination of the right kidney. Finally in a case like this with no

retention of urea nitrogen or creatinin in the blood, with no pulmonary involvement, with some hyperfunction on the right side and an old process on the left, and apparently in the best of health except for this renal trouble, is operation to be considered in the hope that by removing one focus, the system will be aided in holding in abeyance the tuberculosis in the second kidney?

## THE TUBERCULAR SYPHILIDE.\*

By JOHN EDWIN HAYS, Louisville.

Syphilis is a hackneyed subject, yet always interesting for obvious reasons. It is a chronic, infectious disease which in the course of its evolution and development produces characteristic lesions in various tissues and organs of the body. The lesions appearing on the skin are of the most diversified type. It has been well said that the eruptions of syphilis may closely simulate nearly all the ordinary skin diseases.

The skin lesions of syphilis were recognized and very accurately described by some of the earliest writers upon venereal diseases,—even as far back as the Fifteenth and Sixteenth centuries. On account of their importance, these skin lesions have since then commanded a large share of attention, not only of specialists but also of the members of the general profession.

The classification of syphilitic skin affections is very clear and simple. Biëtt, in 1830, gave us a nomenclature classifying them according to the elementary lesion, and his system is used by syphilographers at the present day. About the same time Alibert introduced the term "syphilide" to characterize collectively the cutaneous eruptions dependent upon the syphilitic virus. The different lesions were defined by the proper descriptive adjectives added to this term.

For convenience of study the different forms or types of syphilides are classed as follows: the erythematous, the papular, the pustular, the tubercular, the gummatous, the ulcerating, and the pigmentary.

Before entering upon a description of the particular variety indicated by the title of this paper, I wish to present a brief view of the syphilides as a whole as regards some of their peculiarities and characteristics, although this is evidently a subject about which I can tell you nothing new.

There are some characteristics which syphilides possess, a knowledge of which may render their recognition a matter of less difficulty.

\*Read before the Louisville Medico-Chirurgical Society.

especially if the definitions of the elementary lesions above mentioned are clearly appreciated and borne in mind. One of the more important of their characteristics is the sequence of the eruptions. It has been observed clinically that the syphilides follow each other in a certain, consecutive order. For instance, those lesions affecting principally the superficial layers of the skin occur early; those extending more deeply into the skin follow later. To illustrate, in point of time the first eruption upon the skin is generally the erythematous one, and this may be succeeded in regular order by the papular, pustular, tubercular and gummatous types. A knowledge of this sequence was first established by Ricord to whose sterling pioneer work in this line much credit should be given. It was he who established the law that the period of eruptions in syphilis (when they appear at all) is never reversed. For example, an erythematous syphilide never follows a papular one, nor a papular appear after a pustular one, etc.

It was also Ricord who made the two great divisions with which we are familiar, viz., the *syphilides praeoces*, and the *syphilides tardives*,—the early and the late. In the first class he placed the erythematous, the papular and the pustular; in the latter he assigned the tubercular, gummatous, the ulcerating, and the pigmentary. The first class includes the lesions of the secondary stage. In the latter are included the lesions of the tertiary stage. We now know that the division of syphilitic eruptions into early and late holds good in a general way. It sometimes happens, though not often, that syphilities show some of the later manifestations, i. e., the tubercular and gummatous lesions, within a short time after the primary invasion, or at least before the time that is known as the secondary period has been brought to a close. From our present knowledge it is impossible to determine accurately the duration of the so-called stages of syphilis.

During the secondary stage we know that the lesions are many and as a rule symmetrically placed; in the tertiary the lesions are few and asymmetry is found. The view formerly held that the lesions of the tertiary stage, such as the gummatous, had lost all power of infectivity is untenable, since living spirochaetes can sometimes be demonstrated in such lesions.

It is difficult to describe the color of syphilides. The text books ordinarily make the statement that the characteristic color is that of "raw ham" or "copper." This is not sufficiently distinctive, to my mind, and is

often misleading. The color is a feature which is subject to great variation according to the age of the lesions, their locality, etc. Most of the skin manifestations have a more or less distinguishing color,—a reddish brown,—but the peculiar tint is not easy to describe. This much, however, may be said of the color: It does not disappear under pressure, therefore it is not due simply to a local hyperemia.

The absence of itching and pain in syphilitic eruptions may be accepted as a broad general rule, and although there are exceptions, these symptoms should be given due weight in the matter of diagnosis. It should not be forgotten that syphilides sometimes itch, and that some late lesions, especially the gummata, are exceedingly painful.

The tubercular syphilide very properly belongs to the tertiary state, and being one of the tardiest lesions, is in consequence found only in limited regions. It rarely appears before the second year; its most frequent occurrence (if it appears at all) is during the third or fourth year; it may not show itself for five or ten years, or even later. The locality of the lesion may be on any part of the cutaneous surface, but it seems to have a predilection,—especially is this true in the cases I have seen,—for the upper extremities, particularly the face. As a rule the onset and development of these lesions are so gradual, and without any annoying subjective disturbance, that they are very likely to be overlooked, or rather disregarded, for some time. It usually requires quite a long period for them to attain their maximum growth which is on the average about the size of a split pea. Some lesions are discrete but usually they have a tendency to group or cluster at the same time retaining most of their clinical characteristics. After attaining their full growth they generally remain stationary for a variable period, commonly several months, then undergoing resolution or ulceration, most often the latter. When ulceration begins the whole or greater part of the affected area becomes involved in the process, and in a short time an irregular excavation of the lesion is noted. Objectively, at this point, the process assumes a very serious aspect, and if not before, certainly now, the patient seeks relief.

The main object in presenting this paper is to bring to your notice three cases of this kind which have come under my care, all quite interesting from a diagnostic point of view.

Case I. Mrs. W., aged forty-four years, a stout and vigorous looking woman, the mother of six children, all living and in good health. No miscarriages. Confinements not only oc-



curred at full term but were attended with no difficulty. No history of any significant previous illness.

About nine months before coming to me there appeared on the left cheek several small, hard, elevations. A little later three or four similar elevations appeared on left upper lip near nose. These lesions slowly enlarged until they were about the size of split peas. At first discrete they had on enlarging, especially those on the cheek, more or less coalesced, forming a curved line about one and a half inches long. On account of the little annoyance, beyond the disfiguring effect, she did not seek relief until ulceration began. When first seen by myself the process showed decided activity. Being somewhat in doubt as to the nature of the trouble, I had the late Dr. Ap Morgan Vance see the patient in consultation. We again investigated the personal record of both patient and her husband; both absolutely denied any venereal infection. The children were closely examined for stigmata of inherited disease, but nothing discovered. We made a tentative diagnosis of lupus vulgaris, and at Dr. Vance's request, Dr. McGuire, who at that time (1886) was the only doctor in the city doing exclusively skin work, was called. Without hesitation he pronounced the lesions syphilitic, basing his belief upon the rapid destruction of tissue which was taking place. Dr. Vance and myself had unfortunately overlooked a very valuable differential point. The diagnosis of Dr. McGuire was thoroughly corroborated by the results of treatment. The lesions disappeared in rapid order, leaving only ugly scars to mark their former sites.

Case II. Miss L., aged forty, came to me about five years ago for relief of a skin affection involving the upper and lateral aspect of the nose. There were three or four dark red elevations closely packed together and very near the eye. There was nothing in her personal history which seemed to have any bearing upon her trouble. She had never received any injury to the part before beginning of the affection.

A few months prior to seeing me she noticed these little elevations in the location above mentioned. They grow slowly and gave no particular discomfort. They ceased growing when attaining a size somewhat smaller than split peas. The lesions were slightly incrustated when I saw her. On account of considerable swelling of the adjacent lower eyelid, accompanied by more or less closure of the tear duct as indicated by tears flowing over the cheek, I at once directed her to see an eye specialist. About two weeks later she returned to me with a note from the oculist stat-

ing that he suspected syphilis in her case. The lid condition was much improved, but the skin lesions had not undergone any appreciable change since my first examination. A Wassermann reaction test was made with negative findings.

The patient then agreed to let me make the therapeutic test. Under a fairly intensive treatment, using only mercury and the iodides, the lesions underwent rapid involution. She has since had no further trouble and seems to have fine health. She refused to have further Wassermann tests made.

Case III. Mrs. B., aged forty-eight, widow for twelve years. No children; no miscarriages. Her general health had always been good. The trouble for which she consulted me began about one year previously. She noticed at that time several little elevations closely massed together on the side of her face slightly below and to the front of the ear. Before coming to me nothing had been done except to apply some simple household remedies. It was only after the lesions began to extend and to ulcerate that she consulted a doctor. Venereal history denied. She had no recollection of having any skin affection since childhood except the present one. Her husband died at the age of forty from apoplexy. As the lesions had a luetic appearance, a Wassermann test was advised; this was made and found negative. Fearing a mistake had been made I sent her to another laboratory for the test and received another negative report. This patient also made a satisfactory recovery under antiluetic treatment.

I believe all three of these patients had genuine syphilis, although there seemed no other way to prove it than by the therapeutic test. It is true that iodine is beneficial in all forms of chronic inflammation attended by tissue infiltration and thickening, likewise also is mercury. The results were brought about so promptly, however, in the cases mentioned as to leave no doubt in my mind as to their specific nature.

Lesions of the skin encountered in late syphilis have a grave prognostic importance, for when gummata occur in the skin they are probably also invading internal organs. These late lesions of syphilis in the skin are not likely to be encountered as often in the future as in the past. This will be brought about by our better facilities for diagnosis as well as the method of early and intensive treatment.

## DISCUSSION.

**J. Garland Sherrill:** There is one point in particular that I desire to mention, and that is the possibility of precocious syphilides occurring after the administration of arsphenamin. I recall one case seen a number of years ago which impressed me very forcibly in this connection. The patient was under the observation of the late Dr. Herbert Bronner who administered arsphenamine early in the course of syphilis. Within four weeks of its inception the patient had a marked syphilitic eruption of the rupial type which does not occur that early in the course of the disease in the usual course of events. I would like to ask whether any of the others present have seen similar eruptions following the administration of arsphenamin early in the disease.

What I especially wished to say, in the discussion of Dr. Hays' excellent paper, is that we must not depend upon the administration of arsphenamine in the cure of syphilis; our sheet-anchor in the cure of syphilis is mercury; potassium iodine is only an adjunct; and arsphenamine should be considered merely as an adjunct in the treatment of the disease.

The fact has been demonstrated by actual experience that there are many cases of undoubted syphilis in which the Wassermann blood reaction may be persistently negative. I recall having shown a patient with gumma of the liver before the Jefferson County Medical Society; the blood Wassermann in that case was negative, but the disease responded promptly and continuously to mercurial inunctions. It seems to me that in cases of suspected syphilis, where the Wassermann reaction is negative, provocative treatment should be utilized and another Wassermann test made. The theory is that the Wassermann is made positive by provocative treatment which liberates the spirochaetes from their nests or hiding places and thus bringing them into the circulation.

**S. G. Dabney:** Several years ago the late Dr. I. N. Bloom gave a man a dose of arsphenamine. About ten days afterwards this man had a violent attack of iritis. I mention this in connection with the remarks made by Dr. Sherrill.

I think the fact has been impressed upon all of us that the administration of mercury is absolutely essential in the treatment of syphilis, and inunctions probably represent the most appropriate method of using this drug. I doubt seriously whether we now know very much more about the cure of syphilis clinically than we did many years ago. We are aware that the symptoms may be made to disappear by the administration of arsphenamine, but I greatly doubt whether any treatment has been devised to equal mercury.

In regard to provocative treatment: I was recently called to see a man because of diplopia. We know that one of the most prolific causes of diplopia is syphilis. I always try to secure a complete history from patients of this kind. I had this man give me the history of his life. I did not ask whether he ever had syphilis, but did ask him if there had ever been a sore on his penis, and he said yes he had a small pimple on his penis six months before his marriage, but the doctor told him "it did not amount to anything." Inquiry developed the fact that his wife had miscarried several times and had never given birth to a living child. His blood Wassermann was negative. I suggested that an injection of arsphenamine be given and another Wassermann test made. This was positive. I never saw the patient afterward.

**John E. Hays (closing):** I recall a case somewhat along the line of the one mentioned by Dr. Dabney: I was called to see an unmarried man man about forty-five years of age. In his early life he had syphilis. I did not treat him but the probability is that he received satisfactory treatment. I found him in bed with a rash generally distributed over the entire body which closely simulated the erythema of early syphilis. However, I immediately recognized the lesions as the rash of measles and told him what the trouble was. When this information was given him he was so overjoyed that I thought he would have a "fit." Then I noticed lying on the dresser near his bed a large revolver and asked him why. He replied that if I had pronounced his disease syphilis he proposed to kill himself.

The following case may be of interest in connection with Dr. Sherrill's remarks: At one time I saw a case of genuine gummatous subcutaneous swellings which appeared five months after the initial lesion of syphilis. This man had been treated with arsphenamine. These nodules underneath the skin were exceedingly painful and in due course suppuration occurred and ulcers formed which were cured under regular treatment.

---

**Qualitative Test for Acetone.**—A solution of pure acetone gives a color reaction with sodium nitroprussid. A solution of diacetic acid, as free as possible from acetone, also gives a color reaction with sodium nitroprussid. Such a solution of diacetic acid gives a color reaction with ferric chlorid; acetone alone does not. Electrolytes present in urine, especially sodium chlorid, tend to intensify the color of the ring in the sodium nitroprussid test. Quantitatively, because of the many interfering substances, the tests as routinely done serve as only crudest approximations in indicating the amounts of acetone and diacetic acid present.



## SURGERY OF THE BILE TRACT WITH REFERENCE TO DRAINAGE AND REMOVAL.\*

By A. H. BARKLEY, Lexington

In response to a request to present a paper on gall bladder surgery, I do so with the feeling that I have little to offer that is new, and further that many of the problems relating to this subject are, as yet unsettled.

In the scope of a paper of this kind it would be obviously impossible to cover the entire subject and for this reason the writer has thought it best after making some general remarks on surgery of the biliary tract to pay special attention to that phase of the subject that deals with extirpation of the gall bladder and drainage without removal.

Statistics at this time are not as reliable as they should be for the reason that opinions and treatment have and are still undergoing a change that makes it impossible to collect any great number of reliable cases that are in any way comparable.

That diseased conditions of the gall bladder was known to the ancients is undoubtedly true, and it is further known that they not infrequently recognized the presence of gall stones. It is interesting to note some of the mile-stones in surgery of the bile passages. In 1700 and 1800 there are a few scattering reports of incising the gall bladder. Later Bobb's of Indianapolis, performed a cholecystotomy in 1867, however the real beginning of this work dates from the work of Sims and Tait in 1878. To Langenbuch must be given the credit for first performing a cholecystectomy and within a year did a cholecystenterostomy. McBurney a few years later described the technique and performed successfully a transduodenal choledochotomy. Since this time all the various operations on the bile passages have been performed and the different operations have undergone such refinements in the way of technique, as to say that they are today well nigh perfect.

The progress of surgery in the last two decades has brought many conditions formerly left to the internist, into the sphere of surgery, for example, such as appendicitis, carcinoma of the alimentary tract and etc., are by common consent, ailments purely surgical in character, others are still on the border line. Of the latter class, diseases of the biliary tract is perhaps one of the most conspicuous examples. While the ideal treatment of the majority of the diseases affecting this particular part of our anatomy is undoubtedly surgical, it would be folly to say

that all cases should be subjected to surgical treatment without delay.

Internists and surgeons have indulged in many bitter controversies on this score, each failing to realize that both have places to fill. The work of one must be guided and at times supplemented by that of the other. It is often only by careful observation and discrimination in individual cases that a choice can be made between the two modes of treatment.

One of the greatest strides in an understanding of diseases of the bile passages brought about by modern surgery has been in the demonstration of the living pathology. While clinicians have been studying the symptomatology and pathologists have carefully investigated the gross and minute pathology in the cadaver, the surgeon alone is able to show the disease in all its stages of progress. He sees it in its incipency, again in a later stage and last in the stage where it has about reached a fatal termination, the last condition, thanks to enlightened medicine and surgery, is now becoming much rarer than formerly. Consequently it is the surgeon first and foremost who is privileged to appreciate what grave lesions may exist with few marked symptoms and even these may be masked until the time when they will show their effects so quickly that no form of treatment will be of any avail. He is able to see more clearly how the complications of gall stones adhesions, cholecystitis, pancreatitis and etc., make difficult the diagnosis and retard the treatment.

It is the surgeon again, who shows how often gall stones are present and underlie symptoms often attributed to other organs, whose presence could in no way be detected by other than surgical means. Such conditions as these would naturally lead one to restrict the field of medicine and enlarge that of surgery in gall bladder disease, yet surgical treatment is by no means to be insisted upon in all cases where the biliary tract is at fault. Kocher very aptly says, "That gall stones do not belong to the surgeon, they belong to the patient and if he prefers to keep them and be treated medically, he is entirely within his rights, but the surgeon should also tell the patient, to effect a cure by operative route is not only safer but more certain of permanent relief."

The surgical treatment of gall tract disease will, of course, depend upon the individual case, and in presenting this phase of the subject for your consideration no attempt will be made to describe the various operations and their indications. Only two points of interest will engage our attention, namely

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 18, 19, 20, 1922.

—removal of the gall bladder and drainage.

The operation of cholecystectomy is of prime importance when we consider the extraordinary variability of gall bladder pathology the severity and often deadly nature of the diseases that affect it directly and in consequence involve adjacent organs, the high mortality that too often accompanies both medical and surgical treatment of this organ and the lack of unison on the part of surgeons as to the operation best suited for certain diseases of the gall bladder, it is quite evident therefore that the subject of cholecystectomy is not one to be lightly considered.

The removal of the gall bladder naturally suggests the question as to its function. To the old idea that its function was that of a reservoir for bile may be added that of a tension bulb to take increased pressure away from the liver, thus preventing damage from back pressure. It also keeps up a continuous flow of bile into the duodenum by its contractions, which occur from 8 to 10 times a minute. It is thought by some observers that the gall bladder secretes a mucus, which, mixed with the bile, gives it certain physiological properties, to further strengthen this, it is known that the bile in the gall bladder is eight times richer in solids than bile from the liver and that by during its stay in the gall bladder bile is less irritating, hence less likely to produce an acute pancreatitis if it enters the pancreatic duct.

From the foregoing it will be readily appreciated that the gall bladder has more than one function to perform in the human economy, and its removal should not be undertaken unless in the following well defined conditions, in which there is practical unanimity concerning the advisability of its removal.

Calcareous degeneration, chronic empyema, gangrene, carcinoma limited to the gall bladder, contracted gall bladder with adhesions, extensive trauma of the gall bladder, perforation, stricture of cystic duct or damaged by impacted stone.

Some operators regard a gall bladder that contains stones, much in the same light as a diseased appendix and advise its removal to effect a permanent cure. Those advocating the latter method are frank enough to say that their reason for so doing is due to the fact that stones are often found after cholecystostomy, this is the opinion of the writer does not constitute a valid reason for the removal of the gall bladder.

The conservative side of this question holds to cholecystostomy or cholecystotomy in all conditions other than those enumerated as absolute indications for cholecystectomy. Believing as they do that the function of the

gall bladder is a beneficial one and should be preserved whenever possible and that the effects of drainage is as curative as the more radical operation. On the other hand, those who argue in favor of its removal, say that the gall bladder is not necessary to the individual, and that permanent cure is not assured by drainage and that the increased primary mortality of cholecystectomy is more than compensated in the long run by improved results.

The writer does not believe that cholecystectomy should be performed without due consideration of all circumstances entering into the case in question. He does, however, believe that when the gall bladder is the seat of trouble and it is evident that it can not be restored to its once healthy condition, and further, that the disease is of such a nature as to get progressively worse, then cholecystectomy is the operation of choice.

Cholecystectomy is regarded by many operators as equally safe as cholecystostomy, but the concensus of opinion is to drain. a slighter rise in mortality in the former due to the fact that it requires a longer time to remove than to drain the gall bladder, there is of necessity more trauma and the possibility always of hemorrhage, and more especially is this true when done by men of limited experience in gall bladder surgery. It is therefore quite reasonable to assume that in a given number of cases there would be some fatalities due to the above named factors that one would have avoided by the simple operation of drainage.

In those cases associated with pregnancy, pancreatic disease or in old people with lowered resistance cholecystostomy is the operation of choice. Crile thinks, that in severe infections of the gall bladder it is safer to first drain and later remove if necessary. The question of drainage in these cases is always interesting, and like many other questions connected with surgery is by no means settled. This is true in gall bladder surgery, but the concensus of opinion is to drain. When we come to realize that it is not so much for the gall stones we operate as it is for the infection, we will better appreciate the importance of drainage. How often have we all seen a patient suffering from obstructive jaundice clear up promptly after drainage was instituted. There can be no doubt that complete rest afforded by drainage of the gall bladder as well as the drainage of the bile from the catarrhal passages does cause subsidence of the infection. If any extensive damage has been wrought to the bile tract, drainage while doing great good can not be expected to restore the organ to a normal



condition, however, by long continued drainage there is the greater chance of ridding the organ completely of its lurking infection. Often the question of hepatic drainage must be dealt with. Should an obstruction be in the common duct this must be opened and obstruction removed and drainage instituted. Even when no definite obstruction exists, but where there is evidence of cholangitis biliary drainage should be restored to. Deaver thinks that drainage in cases where there is jaundice and no marked damage to the walls of the gall bladder is much to be preferred to cholecystectomy and in cholangitis accompanied with jaundice but where there is no inflammation or obstruction of the common duct he also prefers to drain through the gall bladder.

In this connection it is not out of place to say a word as to the technique in this operation, it must be stated that it is highly essential to isolate the cystic duct and have a clear view of the common duct before the cystic duct is divided. The cystic artery must be securely tied and the cystic duct should not be divided too close to the common duct, as a permanent biliary fistula may develop as a result of a too low division of the cystic duct with consequent injury to the common duct, this latter accident constitutes a real danger in cholecystectomy, and that no part of the gall bladder is left.

A word about closure of the abdominal wound after gall bladder and common duct operations may be of interest here. Ritcher, however, reports a number of cases of gall bladder and common duct operations in which he closed the abdomen without drainage, believing that more harm can come from the presence of a gauze drain than in the absorption of what little leakage there might be. He does not employ this procedure in cases where there is unusual oozing or where any interference in the onward flow of bile might occur. This might be all right in cases of extirpation of the gall bladder where the cystic duct has been securely tied and the chances of bile leakage reduced to the minimum, but after common duct operations drainage seems to be preferable. In general it may be said that drainage after any operation upon the biliary tract, where there is the least doubt, is not only the logical but safest method to pursue.

As to the non-surgical drainage of the gall bladder in patients suffering from severe infection, stones or any condition that results in obstruction is a waste of time. However, in those cases that have an over production of bile, so to speak, or in those mild catarrhal conditions without stones, it is claimed by

those who have had experience with this method that good results are obtained. The writer has operated upon five cases that were subjected to this mode of treatment, in all stones were present which were not determined either by their histories or by the X-ray. It appears that the results obtained by non-surgical drainage of the bile tract is in direct proportion to the accuracy in diagnosing and in the proper selection of cases to be so treated.

In conclusion it may be stated that both cholecystostomy and cholecystectomy have their proper sphere of usefulness in the treatment of biliary conditions. Cholecystectomy is not now performed as promiscuously as formerly, this is due to more accurate knowledge of different diseases in question and more care in selecting such cases, while improved technique has reduced the mortality materially it is yet a trifle higher than simple drainage. By removal of the gall bladder the possibility of its giving further trouble, either, as to subsequent attacks or the development of malignancy, is obviated.

That personal equation must of necessity enter largely into the question of drainage or removal must be conceded. In other words, it might be entirely proper for a surgeon with large experience to remove at once a gall bladder that is irreparably damaged, while in the hands of one with less extensive experience it would be safer to first drain and later remove the offending organ. The latter class of surgeons should always find comfort in the thought that it is better to perform two operations on the same individual with success than to attempt all at one sitting and lose the patient.

---

**Sequester in Mastoid.**—For twenty days the man of 35 had been having agonizing headache and vertigo so severe he could not stand alone. There had been otitis some years before, and this had flared up anew as these symptoms developed. The mastoid operation revealed that the entire roof of the aditus and of the mastoid was movable, forming a large sequester from the bony layer between the tympanum and the cranial cavity to the bony roof of the antrum. Baragis broke up this sequester and removed the fragments, leaving the meningeal surface exposed. It seemed normal, and he sutured the parts after resection to make an opening into the auditory canal to drain the mastoid. The outcome was perfect.

## SUPPORTERS OF THE CHRISTMAS SEAL.

By ELIZABETH COLE, New York.

Any movement that enlists the interest and partnership of the presidents of the country, the secretary of state and other cabinet members, General Pershing and the first lady of the land, as well as the Prince of Wales, Marshal Foch and other foreign visitors of note, must have back of it a great appeal.

The little newsboy, also, whose enthusiastic support has been enlisted is just as valuable, in his way, as a partner. Nobody could doubt that after reading the following incident.

"Please ma'am, may I have a cent's worth of seals," said the dirty-faced little newsboy as he ran up to a booth in a Post Office lobby. "You know I buy a cent's worth every day," he explained proudly. "My sister, she had the 'con,' and I tell you those people treated our family swell. If anybody wants to know what I think about the Christmas seal, you can tell 'em that I'm back of it."

Many of the supporters of the Christmas seal have been distinguished men and women. They represent all professions and walks of life. Whether they are presidents, writers, actresses, newsboys or scrubwom their desire to help has been equally inspirational and appreciated. They have all been partners in the educational campaign to get the best of tuberculosis.

"Of *course* I want some Christmas seals," said President Coondge last fall when a Modern Health Crusader came to see him in the White House garden.

"I am proud to be decorated with the cross of double bars," said General Pershing to the little girl who had a stand on a chair to decorate him as a Health Crusader.

Even Irving Cobb became serious-minded for a few minutes and advised everybody "to do his Christmas stamping early."

Will Rogers went up to the roof of the theatre where the follies are and roped a high stack of seals.

"It is the duty of all who possibly can do so, to lend their aid in the fight," wrote Major General Clarence R. Edwards, beloved by New England's doughboys of the Yankee division.

"Paste seals all over my face," exclaimed Douglas Fairbanks on the steps of the New York Public Library a year ago. "I like 'em and I want everybody to see I do."

"As Honorary Vice-President of the Association," wrote the late President Harding, "I will be glad to have you convey to all who are interested in the prevention of tubercu-

losis my earnest hope that the coming fourteenth annual Christmas seal sale may be completely successful."

"Fight the fight to a finish," said Clemenseau, France's tiger, when he bought his seals in this country several years ago.

"We will pitch the old enemy out," cried Christy Mathewson and he really has done this for himself in his conquest over tuberculosis at Saranac Lake.

Babe Ruth, the home-run king, as he purchased seals, said he hoped he was helping the tuberculosis patients who were enring in sanatoria to beat his record in running home.

"It is an honor to help in the Christmas seal sale," said Lois Wilson as she took time from her motion picture work to be photographed for Christmas seal publicity purposes in the costume of the Spirit of the Double-Barred Cross.

"Nobody mentioned Christmas seal coats, I'm talking about stamps in season," wrote Nina Wilcox Putnam in a story to help the seal sale campaign. "I mean these merry tuberculosis Christmas seals that you stick them on the rear side of your letters. And George says oh bosh, well we can't afford them either. And I says listen Georgeous you can't afford not to afford them, because one of the best ways to lick tuberculosis is to lick on a big sheet of them seals every time they are in season which is now."

Our War President, Woodrow Wilson, wrote to the National Tuberculosis Association in 1917, "At this time, when we are all called upon to do our utmost to make the fighting forces of the United States the most efficient that human agency can produce. I cannot too strongly urge upon you and your associates, as well as upon all the people of the United States, the increasing necessity for pressing still further the progress which has been made in the prevention of tuberculosis."

The people and the tuberculosis agencies have been steadily pressing forward in the fight against this disease. In 1908 when President Roosevelt, president at the International Congress of Tuberculosis held in Washington, D. C., he said: "I feel that no gathering could take place fraught with greater hope for the welfare of the people at large than this." That was the time when the organized campaign to prevent and stamp out tuberculosis was only four years old, and over 200,000 persons were dying yearly from tuberculosis in this country. In 1918, the year we were in the war, when approximately 70,000 American soldiers, sailors and marines were killed or died from various causes, over 150,000 men, women and children in this country



died from tuberculosis. For twenty years the work of educating people in the ways of health has been steadily increasing, with the result that the death rate has been cut in half. Last year there were less than 100,000 deaths.

The little penny Christmas seals have had a great share in this remarkable decrease. Seals were sold for the first time in 1907 when only 300,000 seals were purchased. Their popularity and number of supporters has so increased that in 1923 over 425,000,000 seals were purchased. During the seventeen years of the organized tuberculosis movement nearly \$30,000,000 have been raised by these tiny symbols of hope. That means that millions of persons, rich and poor, big and little, old and young, sick and well, have been partners in the crusade against the white plague.

What have all these millions of supporters of the Christmas seal helped to support? There are now over 600 hospitals and sanatoria (of which seventeen years ago there were but 100) with nearly 70,000 beds; and over 600 clinics and dispensaries where persons may go for periodic physical examinations. At least 10,000 nurses who are detecting the disease in the schools and homes and are giving, not only treatment, but helpful health instruction to mothers and children. Research workers and statisticians are collecting data of untold value. Publicity experts in the past seventeen years have distributed millions of pieces of printed matter and thousands of columns of newspaper and magazine articles have helped to appeal to all ages, types and classes of both native and foreign born. Other forms of publicity are lecturers, speakers, demonstrations and exhibits, motion pictures, health plays and pageants, posters and stories. The Modern Health Crusade with an enrollment of over 8,000,000 school children has been teaching these boys and girls good daily habits of health. For those who are malnourished or predisposed to tuberculosis at least 3,000 open air schools, preventoria and outdoor camps have been established.

And finally there is the Christmas seal sale itself. Through understanding what the funds from the sale of seals have accomplished and must continue to accomplish, through talking Christmas seals, through selling and buying them, everybody has a chance to be a supporter of the Christmas seal.

## DRUG ERUPTION IN CHILD OF SEVEN MONTHS: ERYTHEMA MULTIFORME BULLOSUM: CASE REPORTS.\*

By C. BROOKS WILLMOTT, Louisville.

Case I. Baby C., a female, breast fed, aged seven months, was brought to the outdoor clinic, Louisville city hospital. It will be noticed that she has an extensive eruption about the face, scalp, forearms, legs and buttocks. We made the diagnosis of drug eruption. The lesions are typical, there being present macules, papules, vesicles, pustules and pigmented areas. The latter are the result of healed lesions.

The mother is the subject of epilepsy and has been taking bromides for quite a long time, in fact ever since the baby was born. The child is now seven months old and the eruption, according to the history given by the mother, has existed for about four months.

Case II. The second patient is a negress of about forty-five who was presented before this society some time ago by Dr. Wm. J. Young. She was admitted to the city hospital in December, 1922, with a fairly well generalized eruption of the bullous type, some of the bullæ being very large. The diagnosis was made at that time of erythema multiforme bullosum. The larger lesions were opened and drained, the patient was given olive oil rubs, lotions of calomine and zinc were later used; purgatives, diuretics and alkalies were also administered. She remained in the hospital about six weeks and was in good health when dismissed.

On admission the chart shows that the patient had some fever, and her general appearance was suggestive of a complicating tubercular condition, there being several enlarged cervical glands. The skin lesions were not especially painful, but of course they were tender after the outer skin was removed. They never itched intensely, they were described by her as burning and stinging.

The patient was readmitted about two weeks ago with a recurrence of the eruption, but the bullæ were not so large nor numerous as before. The glandular lesions were much more in evidence than previously; in the left groin there was quite a large gland, and she had high evening temperature. On two occasions since readmission the temperature has been 106 degrees F. during the early forenoon, but the general tendency has been toward moderate fever, 99.5 degrees to 101.5 degrees F. in the afternoon.

\*Clinical report with exhibition of patients before the Jefferson County Medical Society.

One of the cervical glands was removed and the pathological diagnosis was made of tubercular lymphadenitis. The gland was about the size of a pigeon egg and the central portion was caseous.

The woman now presents a fairly general pigmentation of the skin with a few isolated bullæ disappear, is for the skin to sometimes know the tendency in these cases, when the bullæ disappears, is for the skin to sometimes show pigmentation at the site of the former lesions. Of course, in the negro, pigmentation is not so noticeable as it would be in a white person, although pigmentation in this race is quite common even from superficial lesions of the more common diseases of the skin.

### DISCUSSION.

**S. A. Steinberg:** In many instances erythema multiforme seems to owe its origin to toxemia, which may be due to many different causes. Several months ago I saw a female with typical erythema multiforme of the "iris" type. She gave a rather indefinite history and it was thought she had a pelvic abscess. Further examination by a gynecologist disclosed the fact that she was about three months pregnant. In that case the toxemia of pregnancy was the cause of the erythema multiforme. In some instances the toxemia is due to gastro-intestinal disorders. Sepsis is often the cause. Septic nephritis, septic endocarditis, or streptococcal infection of any internal organ may be the origin of erythema multiforme, and in such cases the outcome may be fatal. Several years ago I did some biopsy work on lesions of erythema multiforme occurring in cases of septic endocarditis and nephritis. In these cases sections showed many short chains of streptococci. I recall three such patients and they all died.

In the colored woman shown by Dr. Willmott the tubercular condition is merely a coincidence, it has nothing whatever to do with the cutaneous eruption present. Inspection shows that her mouth is also diseased. The lesions on her legs and arms may be some type of so-called vegetans eruption. The skin is greatly thickened, dry and scaly, on the ankles and also the palms and soles. This is suggestive of pemphigus vegetans, as is also the high temperature and absence of typical erythema multiforme lesions.

Cases of this kind are interesting not only to the specialist, but also to the internist. If the skin lesions are due to infection or toxemia, the assistance of the internist is necessary to discover the cause of the toxemia.

## OVARIAN CARCINOMA AND UTERINE FIBROMA: SUPPURATING OVARIAN CYSTOMA: UTERINE AND OVARIAN FIBROMA. CASE REPORTS.\*

By M. CASPER, Louisville.

Ovarian carcinoma is by no means common, yet it is not so extremely rare, and we should always be on the lookout for it. The diagnosis is seldom made prior to operative intervention, especially when encountered in the early stages, and often the growth is inoperable on account of metastases when the patient is first observed.

Case I. Mrs. W. J., aged fifty-three years; menopause six years ago. Chief complaint constipation, gaseous distension, sanguineous vaginal discharge, anal fissure. Roentgenoscopy negative except obstruction shown about middle of transverse colon. Blood pressure 125-82 mm. Examination revealed fluid in abdominal cavity and nodular tumor involving uterus, thought to be fibroid, possibly malignancy.

Celiotomy: panhysterectomy, salpingectomy and ovariectomy. The true nature of the case was not revealed until we were about ready to close the abdominal incision. The numerous adhesions, especially those about the omentum, were not separated at first as they seemed to nicely and effectively "wall off" the general peritoneal cavity. Closer inspection caused us to suspect the large omental segment, and in securing a specimen for microscopic examination we were almost sure we were dealing with metastasis from a malignant ovarian tumor. We had previously reported three such cases.

Microscopical report: Ovarian adenocarcinoma in abdominal cavity; uterine leiomyoma (fibroid); chronic endometritis; chronic bilateral salpingitis; opposite ovary atrophic.

Subsequent history: Rapidly growing carcinoma in abdominal cavity; eight months later two gallons of dark colored fluid withdrawn from ascitic abdomen. Patient has marked cachexia, severe pain in abdomen, and general asthenia.

Case II. The next case is reported as a gynecological curiosity. The patient was a woman who lived within two squares of a medical college and twelve different doctors (not students) had examined her; and, of course, no one had made a correct diagnosis, nor had anyone prior to our seeing her discovered the large abdominal tumor which was

\*Clinical report before the Jefferson County Medical Society.



- present. However, this was easily explained by the fact that she was very fat,—the short and thick type.

The patient had been treated for numerous ills in various ways, including one curettment six months prior to our operation. Her menstrual history was negative though she had a miscarriage three years ago. Menses since regular, duration three days, not painful.

Chief complaint: pain in left side, lately relieved only by papine. Examination revealed a large abdominal tumor, the shape and size of the abdomen resembling a full term pregnancy. Diagnosis: ovarian cyst.

Celiotomy: Numerous adhesions noted everywhere; there was not an organ in the peritoneal cavity not adherent to the tumor; adhesions to the liver were especially numerous. The tumor was "shelled out" with great difficulty, and it was indeed difficult to determine its origin. Early in the operation a trocar was introduced and three gallons of thick creamy pus withdrawn. Multiple drains were inserted. The patient made a slow recovery. Infection of wound followed causing delay in convalescence.

Microscopic diagnosis: Chronic salpingo-oophoritis; ovarian cyst with chronic inflammation; no evidence of tuberculosis. Test tube of pus became separated from specimen, hence we lost the chance for culture report.

Case III. The third patient was a fleshy woman operated upon a few days ago for uterine fibroma. In addition she had an ovarian tumor about the size of a goose egg, very hard, with a long, thin pedicle which had become twisted. She had been suffering considerable abdominal pain, and it may readily be understood how a heavy tumor with a narrow, long pedicle could become twisted and cause pain in that neighborhood.

We did not discover the ovarian tumor prior to operation. When removed it resembled a carcinoma, of which I have had two or three cases, but examination showed fibroid ovarian tissue similar to the fibroid tissue in the uterus. Both tumors were removed and the patient is now practically well.

### DISCUSSION.

**John King Freeman:** Carcinoma of the ovary is very rare. In the case reported there was not only an ovarian carcinoma but also omental carcinoma which was undoubtedly of metastatic origin. Dr. Casper stated he did not notice any unusual pathology until about ready to close the abdominal incision. I have never seen an ovarian carcinoma, although I am aware several such cases have been recorded.

The second case reported is a curiosity. There

must have been some abnormality of the abdominal organs to account for the extensive adhesions. The large amount of pus must have resulted from secondary infection of the ovarian cyst. We know that secondary infection of ovarian cystomata is not uncommon.

**Simrall Anderson:** In malignant or other solid ovarian tumors ascites is more common than in cystic tumors involving the ovary. In cystic tumors the fluid is generally confined to the cyst; but in solid tumors there is usually considerable ascitic fluid in the general peritoneal cavity. The case reported by Dr. Casper confirms this.

My father, the late Dr. Turner Anderson, several years ago exhibited before the Kentucky State Medical Association a specimen of ovarian sarcoma, which is less common than carcinoma. We know that carcinoma of the ovary is rare; about two per cent of all tumors of the ovary are solid growths. The majority of solid ovarian tumors are fibromata, few of them malignant. However, carcinoma is much more frequent than sarcoma.

**M. Casper (Closing):** Metastases in malignant ovarian tumors are very early and numerous; the secondary growths are likely to attach themselves to every abdominal organ. I recall one case seen a few years ago in which there were literally millions of minute metastatic growths in the abdominal cavity. These often resemble fish eggs, and are sometimes referred to as fish egg tumors; they are usually numerous and may attach themselves to every organ in the abdominal cavity.

In the case reported the tumor was at first thought to be benign and that inflammatory changes had caused the extensive adhesions. Everything was literally buried in adhesions which were not separated until the operation was nearly completed. However, the omentum looked suspicious and a small specimen was removed for examination which showed the characteristic appearance of malignancy that I had seen in previous instances.

The second case was rather puzzling, I could not account for the tremendous amount of pus present. The tumor was intimately attached to every organ in the abdominal cavity especially the liver. It was most likely originally a simple ovarian cyst which had existed for a long time and had become secondarily infected. The cyst walls were greatly thickened and the interior of the cyst resembled placental tissue. The creamy looking pus did not have the characteristic colon bacillus or foul odor often seen in secondary infections.

I was sorry to lose the specimen as we do not now know what the culture growth really would have shown.

## ETIOLOGIC RELATION OF INFECTED TONSILS TO CHOREA.\*

By OCTAVUS DULANEY, Louisville.

I intend in this paper to discuss the etiologic relationship of infected tonsils to chorea of the type of form commonly known as Sydenham's. In the beginning I want to state it is not my intention to convey the idea that infections of the body elsewhere do not cause the same symptoms that are usually noticed in chorea.

In 1914 I removed some badly infected tonsils and noted an immediate and surprising relief of choreic symptoms. With the assistance of Dr. Motley, pathologist to the Baird-Dulaney Hospital, we began the study of chorea on the hypothesis that it is a nervous manifestation secondary to some primary focus of infection. This work was continued until August, 1921, a short time prior to my locating in Louisville.

During the time we treated a limited number of cases of chorea and allied conditions by removing infected tonsils and have observed some of them as long as seven years. After such treatments our results in these cases have justified us in making a report on the subject.

In 1917 I made a preliminary report on the subject at the Pittsburg meeting of the American Academy of Ophthalmology and Otolaryngology, at that time reporting a series of fourteen cases. Since that date we have had nine other cases. Let us say here that we realize our series of cases is small and the amount of experimental work is meagre and therefore we do not wish to state any final conclusion or make any positive claim. We merely present the results of our work, as far as we have gone with it, for what it may be worth.

In the etiology of chorea, very little of definite information is to be found in the literature. The theories advanced concerning its causation are conflicting and purely speculative in nature. But all authors are in agreement, in that chorea is associated in the large majority of cases with some evidences of a systemic infection. Dieulafoy in his text book makes particular mention of the occurrence of chorea with endocarditis. Strumpell, Anders, and Osler mention the association of endocarditis, pericarditis, and rheumatic fever with chorea. Holt cites the claim of some authors that it is due to a reflex irritation from adenoids and enlarged tonsils, and states that the association of chorea and enlarged

tonsils and adenoids is not infrequent. Some of the later authors ascribe an infectious origin to chorea. Matthews in 1916 reported four cases of chorea treated at the Mayo clinic by the removal of diseased tonsils, with relief in three of the cases. Other etiologic factors mentioned by different authors are, fright, over-pressure in school, anemia, chronic malarial poisoning, phimosi, intestinal parasites, delayed menstruation, and ocular defects.

The number of cases constituting the basis of this report is twenty-three. The ages range from three to thirty-six years. Six of the patients were adults, and of these seventy-five per cent were females. Seventeen cases occurred in children, eleven females and six males.

The nervous symptoms shown by these patients were mostly motor, and displayed derangements extending in character and severity from spasmodic twitching and fibrillation of small groups of muscles, to the irregular, jerky, semi-purposeful movements of all the muscles of the skeleton, and in a particularly severe case partial incoordination of all the skeletal muscles was observed in addition to the jerky motions. Poor and disturbed sleep was a noticeable feature of all the cases. The motor disturbance extended to the muscles of articulation in the majority of cases, as was shown by impairment of speech to a greater or less degree. In some of the adult cases there was present a certain amount of mental derangement, sometimes taking the form of hallucinations of persecution and other morbid notions, and sometimes merely paroxysms of hysteric crying.

Almost without exception all the patients gave a history of previous tonsillitis, and the adults a history of repeated attacks extending over a period of years. Some of them stated that they had not been troubled with local symptoms from their tonsils for some months prior to the beginning of their nervous troubles, with the exception probably of a sensation of slight irritation in the throat, entailing a "clearing up" process in the morning.

Associated conditions: All the patients except two showed some evidence of cardiac damage, generally taking the form of endocarditis. This was evidenced by signs ranging from slight, barely audible roughened valvular sounds to frank endocarditic murmurs.

Rheumatism played a part in the histories of most of the patients. Two had subacute arthritis at the time they were under our care. One of the adult males gave a history

\*Read before the Jefferson County Medical Society.



of acute polyarthrititis some months before the onset of his nervous symptoms. Five of the patients gave a history of acute recurring arthrititis prior to the appearance of nervous symptoms.

Fever of a greater or less degree was an accompaniment of all the cases except two when they came under our observation. The temperature in no instance was above 101 degrees. The two exceptions occurred in adults, and in these the temperature was constantly slightly subnormal, but more noticeably so in the early morning.

The diagnosis of these cases as nervous conditions secondary to primary foci of infection was made only after careful and repeated examination of the patients. Thorough physical examinations were made in an effort to find other etiologic factors if possible, and we did not lay the blame on the diseased tonsils as being the cause of the trouble until we had eliminated other causes as nearly as possible. Careful laboratory examinations were made in every case. In eleven of the cases Wassermann tests were made on the blood, as they were the only ones which presented anything in the history or findings that made us suspicious of syphilis. In these cases the reaction was negative. The acute cases showed a polynuclear leucocytosis of greater or less extent. The blood was cultured from these cases, and a growth obtained in only two. Three of these presented a growth of a short-chained, non-hæmolyzing streptococcus. 0.5 c. c. of a bouillon culture of which did not cause death after injection the peritoneal cavity of a guinea pig. No changes of importance were observed in the pigs thus injected. Other animal culture experimentation was not systematically or extensively undertaken in this series, cultures made of the tonsils after their removal gave growths of streptococci, staphylococci, and pneumococci, together with other organisms commonly found in the oral cavity. No one organism was noted to appear more constantly than any other, or to appear the predominating organism, so we make no attempt to ascribe any degree of specificity to any organism.

The tonsils in most of these cases had very much a similar appearance of those described by Ophuls which he found to contain the foci of infection in cases of nephritis. The majority of them were not enlarged, but on the contrary were rather shrunken. In a superficial examination of the throat, the average clinician would call a large number of them normal, or only slightly diseased. They were of the type that we speak of as being "submerged"; that is, they were retracted

behind the pillars. The surface was of a grayish-white color, showing cicatrization, and the openings of the crypts were quite narrowed, and sometimes apparently obliterated. When these tonsils are squeezed after removal, caseated material and pus exudes, often in large quantities. The pillars are often bound tightly to the tonsils with thick heavy bands. A section of such a tonsil shows bands of fibrous tissue throughout, the contraction of which has caused stenosis of the orifices of the crypts. This occlusion of the orifices has caused the crypts to become distended and retain the pus, forming "pus pockets" and furnishing reservoirs from which infection can constantly be absorbed.

An excellent way to diagnose these tonsils while still in the throat, and a way to absolutely place the blame on them as containing pus pockets, is to use the small cold electric light on the DeZeng Standard diagnostic set. This light, white and brilliant, but slightly larger than the head of a match, is placed in firm contact with the lower border of the tonsil. Thus the tonsil is literally transilluminated. The tonsil such as has been described appears pale, translucent, and shows dark areas which are the pus filled crypts. Tonsils of this kind are the result of many repeated attacks of acute tonsillitis of greater or less severity, which has caused a process of slow cicatrization to take place producing adhesions to the pillars, and occlusion of the orifices of the crypts preventing free drainage.

The treatment of these cases consisted first in the removal of the tonsils, and when indicated, the adenoids. This we did under general anæsthesia, using blunt dissection to free the pillars, and the snare for enucleation. After the hæmorrhage was controlled, and we were certain that the tonsil was removed in its entirety with the capsule, we applied half-strength tincture iodine to the fossæ. Daily cleansing treatments were made for some time after the enucleation. In some cases as a result of long continued infection in the tonsils, other tissues of the naso-pharyngeal region had become involved, such as adenoids, enlarged turbinates, etc. These fields, when they existed, were given proper attention as part of the treatment. A thorough search was made in every case to be sure that no other infective focus remained to furnish infection as in all cases of focal infection from whatever cause, we insist upon adequate after-treatment. This consists in the main of thorough intestinal elimination, mercury, arsenic, potassium iodid, strychnine, the salicylates, or other medication as may be indi-

eated. In most of the cases proper hygienic management with rest was all that was necessary.

Results: The treatment as outlined resulted in the complete relief of the nervous symptoms, and a marked improvement in the general condition of the patient. In only one case were we denied the removal of the tonsils. This patient improved greatly under local treatment of the tonsils and the use of autogenous vaccines made from the bacteria recovered from the tonsillar pus. The patient became free from choreic symptoms, but a condition of nervous irritability still persists, and a normal condition has never been reached.

#### REPORT OF CASES.

Case I. L. F., male, 15 years of age, was referred to one of us for the correction of errors of refraction, to which his nervous symptoms had been attributed.

History: The boy's parents stated that he had been of a nervous temperament since early childhood, and had never been able to make the progress in school that he should. He had never been a normal boy. Twelve months prior to the time he came under our observation, an oculist in another city had corrected his errors of refraction, to relieve a spasmodic winking of his eye lids. The oculist also advised his family physician to circumcise the boy for the relief of other minor nervous symptoms. For a while after these procedures the boy was apparently better. Upon questioning his parents, it was learned that he had suffered repeated attacks of tonsillitis in early childhood, but for some time prior to the date we saw him, there had been no local symptoms from his tonsils beyond a slight irritation. With the exception of measles at the age of six his history was negative as regards infections. For a week before we saw him, his parents began to notice that in performing a voluntary movement, that his motions were jerky and irregular. These choreic motions rapidly grew worse and more extensive, and soon involved all the skeletal muscles. At the beginning of his nervous disturbance, he began to sleep poorly, and later had marked insomnia.

Examination: Examination showed an undernourished, anemic boy. While observing him when seated, any number and variety of spasmodic muscular movements were to be seen. These movements were general and affected all the muscles of the skeleton, but were more pronounced on the left side. The majority of these movements seemed to have their beginning as purposeful movements, but

terminated in the incoordinated jerk of chorea. In attempting to pass through a door, he would show a marked incoordination of the muscles of his lower extremities, and his gait was hesitating, jerky, and uncertain. This muscular incoordination extended even to the muscles of his eyes, as indicated by an extreme difficulty in focusing his eyes upon an object. He attempted to close his left eye in order to get a clear view of an object with his right eye, and *vice versa*. It was impossible for him to read the test type at any distance on account of a spasmodic contraction of the muscles of the left side of his neck, which would, after making a few attempts to read the type, draw his head over on his shoulder. Physical examination showed nothing remarkable beyond the points already mentioned, with the exception of a slight roughening of the valve sounds, temperature 99.4 degrees F. pulse 100. Laboratory examination showed nothing beyond a low grade secondary anemia, and leucocytes 10,000. Wassermann and tuberculin reactions negative. Examination of his throat showed submerged, adherent, cicatrized tonsils. Upon firm pressure inspissated pus was expressed from the apparently obliterated orifices of the crypts. Culture of this pus gave growths of a short-chained streptococcus, non-haemolyzing, with a few colonies of a staphylococcus, and a diplococcus resembling the pneumococcus. Cultures taken from the tonsils after removal gave the same organisms. Upon "transilluminating" the tonsils they had very much the same appearance that we have described before.

After a week of observation and careful study of the patient while he was in the hospital, we concluded that his case was one of focal infection, with the tonsils harboring the focus. The tonsils and adenoids were removed under general anaesthesia. As the snare was tightened around the tonsils, an unusually large amount of caseous pus was expressed.

Outcome: Within twenty-four hours after the removal of the tonsils, the extreme muscular spasm and incoordination began to improve, and in a week he was entirely free from them. However, a condition of nervous irritability remained, but no more than had been noticed for some years, and this gradually improved. His general physical condition was improved in every respect, and he gained remarkably in weight. He is now in school, and his teacher reports that his progress in his work is satisfactory.

Case II. L. B., female, unmarried, age twenty-one years, admitted to the hospital,



December 5, 1916, referred by Dr. J. L. W. She complained of convulsive movements of the muscles of the left shoulder of such severity as to jerk the entire left side nearly free of the bed at times, and which required chloroform for control.

**History:** Beyond the usual diseases of childhood the patient had always enjoyed excellent health, she stated that she had suffered at intervals from attacks of acute tonsillitis of mild severity, but for some time her tonsils had not caused any local symptoms. Ten months before we saw her, she had an attack of grippe, as she stated, and from that time onward had noticed a condition of nervous irritability. Anything that startled her would cause a convulsive twitching of certain groups of muscles, and she would, as she said, "lose control of herself." This condition grew gradually worse, accompanied by considerable loss of weight. For a month before we saw her these attacks became more severe and appeared without any provocative influence, and began to appear twice a day and oftener. For a week before entering the hospital she was confined to the bed, and for the five days prior to her entrance, chloroform was required to control these convulsive seizures. Her social history was not interesting.

**Examination:** Examination showed an anemic girl with evidences of a loss of weight. Upon observing the patient while she was having one of the attacks of muscular spasm, there was seen a peculiar jerky, spasmodic movement of the muscles of the left shoulder, which jerked the shoulder antero-posteriorly, and so extensive and violent were these movements, that it looked at times as though she were going to jerk herself off the bed. These attacks appeared any number of times a day and without any apparent provocation, and were not accompanied by any loss of consciousness. Any attempt to perform a voluntary movement would precipitate an attack. A general physical examination failed to reveal anything remarkable beyond pathology in the naso-pharyngeal region which will be described. Temperature 99.2 F., pulse 95. Slight roughening of the valve sound at the apex. Examination of the throat showed moderately enlarged, firmly adherent, submerged tonsils, with the peculiar grayish-white surface. At the upper pole of the tonsil of the right side, there was an opening which communicated with the interior of the tonsil, and from which pus was expressed by pressure. Thus the tonsil was literally a pus sac. There was present in this patient a condition which I have observed in cases in which

there has been a tonsillar infection of long standing. This consists of patches of lymph follicles which have become hypertrophied and by coalescence have produced a raised granular patch on the posterior pharyngeal wall, and on the upper part of the fauces. The middle and inferior turbinate bones on both sides of the nose were large, turgescient, and showed a rough granular surface. In the right nasal fossa was found a pedunculated polypus the size of a hazel nut.

**Treatment:** The tonsils were removed under general anaesthesia with the snare. Pus exuded in large quantities during the removal. The fossæ were swabbed with half strength tincture iodine. The turbinates and polypus were removed under local anaesthesia later.

**Outcome:** There were no convulsive seizures of the muscles at any time following the removal of the tonsils. The nervous irritability was still present to a marked degree, but this was alleviated to a great extent by the exhibition of bromides, which had shown no effect before the removal of the tonsils. This irritability gradually became less, and in a few weeks had completely disappeared. In the first six weeks after leaving the hospital she gained twenty pounds in weight. At present the patient is entirely free from symptoms, and states that she feels as well as she ever did. She has a good color, sleeps well, and presents as near normal condition as possible.

#### SUMMARY.

1. All the cases of chorea and choreiform affections forming the basis of this report appeared to be secondary to primary foci of infection which were found in the tonsils.
2. The tonsils in these cases showed the results of many attacks of tonsillitis, and at the time of removal were in an infected condition.
3. The organisms harbored by the tonsils were of the types commonly found in tonsillar infection, but the streptococcus and pneumococcus were apparently the most constantly appearing organisms.
4. The diagnosis of a nervous condition secondary to infection elsewhere in the body was only made after repeated examinations and study.
5. The removal of the tonsils together with any other infected areas in the nose or throat, gave complete and immediate relief which has lasted in all the cases until the present time. Some of these patients have been observed for three years after the disappearance of the nervous symptoms.

## CONCLUSIONS.

1. That there are a large number of cases of chorea and choreiform affections which are secondary to primary foci of infection.

2. All the cases of chorea forming the basis of this report were secondary to foci of infection which are found in the tonsils.

3. Only after the most thorough and repeated physical examination and laboratory investigation should the tonsil be incised as harboring the focus of infection cases of chorea.

4. There should be a close working association between all the branches of medical specialization if the best service is to be given in conditions dependent on focal infections.

5. In all cases every area of infection should be eliminated after removal of the tonsils, and appropriate after-treatment should be vigorously pursued.

We wish to express our gratitude and appreciation to the doctors who referred the patients upon which this report is based for their cooperation and interest.

#### APPENDICITIS WITH FISTULOUS FORMATION. CASE REPORT.\*

By L. WALLACE FRANK, Louisville.

The specimen which I exhibit is, I believe, rather unusual. It is an appendix which shows definite fistulous formation. The patient gave a history of an attack of appendicitis eight months before being seen (and operated upon in October, 1923). Following the first attack he had pain in the right side of his abdomen at intervals for three months. The diagnosis of appendicitis was made then but operation was refused. About four months before we saw him there occurred a terrific attack of abdominal pain with the formation, as he described it, of a "big lump in his right lower abdomen." The pain persisted for two weeks when he noticed that a large amount of pus was discharged with his fecal evacuations followed by the disappearance of the abdominal mass. Since then he has had constant pain in the right iliac fossa.

At operation in October the appendix was found incorporated in a mass of inflammatory adhesions which also involved the ileum and cecum. However, these adhesions were not sufficiently dense to lead one to think there had been a fistula into the intestine itself. Some difficulty was encountered in freeing the appendix, but when this was accomplished we were very much surprised to see on one

side a definite fistulous opening with mucous membrane everted in the characteristic manner.

We believe this man's repeated attacks of pain were due to the fact that following formation of the abscess leakage occurred into the "walled off" area from the appendix causing increase in local peritonitis. When leakage ceased pain would subside until the appendix refilled with pus.

It is an unusual type of appendiceal lesion. I have never seen anything like it before. The fistulous opening in the side of the appendix can be plainly seen. When the specimen was fresh the opening could be seen much better than it can now.

#### BOOK REVIEWS

*Rhus Dermatitis (Poison Ivy), Its Pathology and Chemotherapy.* By James B. McNair, University of Chicago. The University of Chicago Press, 5750 Ellis Ave., Chicago, Ill.

Of all cutaneous eruptions caused accidentally by plant substances, that resulting from the poison oak or ivy is the most common in North America. The lack of any rational treatment for this common poisoning has led Mr. McNair into a protracted study of the isolated principle, in the hope that knowledge of its characteristic properties may serve as a basis for such treatment.

The investigation of this poison has been carried on from the standpoint of pharmacology, of botany, and of chemistry. It is hoped evidence has thus been secured from these three which will help to eliminate error and converge toward a true understanding of the poison. The study of the morphology of the plant gives the method of formation, location, and means of transmission of the poison. The study of pathology has shown its manner of action on the body. Botany and pathology combined with a chemical knowledge of the structure of the poison have yielded a rational remedy for *Rhus dermatitis*.

#### Pupillary Reactions in Epidemic Encephalitis.

—No Argyll Robertson pupils were found by Mehrtens and Barkan in thirty-six selected cases of epidemic encephalitis. A sluggish light reaction was always part of an ophthalmoplegia interna. Isolated paresis of accommodation, in which the pupillary reaction was normal, was also a frequent sign. The pupil in encephalitis is often mydriatic and is round or ovoid, in marked contrast to the serrated irregularity of the syphilitic pupil.

\*Clinical report with exhibition of specimen before the Louisville Medico-Chirurgical Society.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

### PRESIDENT

FRANK BOYD .....Paducah

### PRESIDENT-ELECT

J. RICE COWAN .....Danville

### VICE PRESIDENTS

C. W. DOWDEN .....Louisville

J. G. FOLEY .....Pineville

E. G. THOMAS .....Benton

### TREASURER

W. B. McCLOURE .....Lexington

### DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

LEWIS S. McMURTRY .....Louisville

V. W. RICHMOND .....Clinton

### ORATOR IN SURGERY

L. WALLACE FRANK .....Louisville

### ORATOR IN MEDICINE

E. R. PALMER .....Louisville

### FIRST DISTRICT

V. A. STILLEY .....Benton

### SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

### THIRD DISTRICT

J. H. BLAKBURN .....Bowling Green

### FOURTH DISTRICT

I. Z. AUD .....Cecilia

### FIFTH DISTRICT

I. G. HOFFMAN .....Louisville

### SIXTH DISTRICT

C. C. McCHORD .....Lebanon

### SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

### EIGHTH DISTRICT

F. A. STINE .....Newport

### NINTH DISTRICT

A. T. BRYSON .....Ashland

### TENTH DISTRICT

I. J. ESTILL .....Lexington

### ELEVENTH DISTRICT

W. M. MARTIN .....Harlan

### SECRETARY-EDITOR.

ARTHUR T. McCORMACK .....Louisville

### BUSINESS EDITOR

G. H. SOUTH .....Louisville

### ASSOCIATE EDITORS

I. A. COTTELL .....Louisville

I. K. FREEMAN .....Louisville

### ASSISTANT EDITORS

#### UROLOGY

OWSLEY GRANT .....Louisville

#### DERMATOLOGY

A. A. STEINBERG .....Louisville

#### GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

#### PEDIATRICS

P. F. BARBOUR .....Louisville

#### OESTETRICS

EDWARD SPEIDEL .....Louisville

L. O. REDMON .....Lexington

#### EYE

ADOLPH O. PFINGST .....Louisville

#### EAR, NOSE AND THROAT

A. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

#### PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

#### PRACTICE OF MEDICINE

C. D. GILLIM .....Owensboro

H. H. COWLEY .....Berea

#### ANESTHETICS

V. H. LONG .....Louisville

#### DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

## COUNTY SOCIETY REPORTS

**Russell:** The Russell County Medical Society and Community Meeting held a joint meeting at Pine Top Christian Church in the extreme north eastern part of Russell County, near Pularski and Casey line. There were more than 500 people present of all ages from infants to old age. The church yard and all available space was parked with autos, buggies, wagons and horses. It was an ideal day. Good order made pleasant and interesting. The House was placarded with different placards showing the causes of diseases.

L. D. Hammond, president, called the meeting to order and made an interesting talk on the object and benefits of these meetings. Prayer by Rev Aaron Wilson. Addresses by Auther Luttrell, Gideon Wilson, Mrs. L. D. Hammond, Judge H. W. Edmond, L. D. Hammond and J. B. Scholl.

At noon there was spread upon the ground the nicest, cleanest, "most of it," dinner, I remember of ever seeing. Prepared by the good housewives of that and adjoining vicinities. Dr. Hammond in his talk made it plain that these meetings are not "Doctors Meetings" but were for the people and by the people and the Doctors to get together and advise and talk about everything that would be good for humanity and live stock afterwards and learn how to live a little longer, at least try to obey the Bible. It says it is allotted to man 70 years, so if we all keep trying we hope in a few years we live up to 70 or more. Other meetings of this kind will be held often.

J. B. SCHOLL, Sec'y.

**Daviess:** Dr. J. W. Barnhill was re-elected president of the Daviess County Medical Society at its meeting last night at the Y. M. C. A., as were Dr. J. D. Stuart, of Rome, vice president, and Dr. George Barr, secretary and treasurer.

The Owensboro City Medical Society will join with the Daviess County Society at its next meeting in a resolution to place before the Kentucky State Medical Society an invitation to hold its 1925 meeting in Owensboro. The state society has about 2,000 physicians enrolled as members.

The program included a paper by Dr. W. L. Tyler on "Pyelitis in Children;" subject review, "Gonorrheal Arthritis," by Dr. A. McKinney; and the report on cases was made by Drs. J. E. Barnhill and Edward Barr.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



—THE—  
**Brown Hotel**

4TH AND BROADWAY  
LOUISVILLE, KENTUCKY

*Headquarters Kentucky  
Medical Association - 1924*

\*

700 Rooms

700 Baths

Circulating  
Ice Water

\*



*Moderate  
Rates*

*Popular  
Prices*

*Coffee Shop*

*Centrally  
Located*

*THE newest and finest hotel in the South  
has been selected as Headquarters for  
the September meeting, 1924.*

*Every comfort and convenience at most reasonable  
rates is assured at the first meeting of the Associ-  
ation since the completion of this beautiful Hotel.*

*We extend you a cordial welcome and prom-  
ise that you will enjoy your meeting at the*

**BROWN HOTEL**

*CARL M. SNYDER, Manager*

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00

Single Copy 50 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., NOVEMBER, 1924

No. 11

## CONTENTS AND DIGEST

### EDITORIAL

A RECORD BREAKING MEETING.....	417
STATE DUES.....	417
THE NARCOTIC QUESTION.....	418
DR. OLIN WEST PROMOTED.....	418
ATTENTION EX-MEDICAL OFFICERS.....	418

### SPECIAL ARTICLE

OBSTETRICAL COLUMN, By Alice N. Pickett.....	419
--	-----

### OFFICIAL ANNOUNCEMENTS

OFFICIAL MINUTES OF THE SEVENTY-FOURTH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION HELD AT THE BROWN HOTEL, LOUISVILLE .....	421
PROCEEDINGS OF THE SURGICAL SECTION.....	423
OFFICIAL MINUTES OF THE HOUSE OF DELEGATES....	423
REPORT OF THE COUNCILORS BY DISTRICTS....	426 to 433
REPORT OF DELEGATES BY COUNTIES.....	433 to 438

## New Edition of DeLee's Obstetrics

The revision for this new edition has been the heaviest the work has undergone. Notwithstanding the elimination of much obsolete material and the striking out of numerous illustrations, the text has been increased to 1123 pages and the illustrations to 1128, and of these 201 are in colors. The treatment and causation of eclampsia has been thoroughly revised; the section on prenatal care has been rewritten. The section on the endocrines includes the latest developments; the technic of prevention of mild infections has been elaborated; there are many important additions to the sections on hyperemesis gravidarum, abruptio placentae, syphilis, heart disease, and operative obstetrics. Of unusual importance is the beautifully illustrated technic of the new supra-symphyseal cervical cesarean section—now the operation of choice.

**Practical**—is the keyword of the book. The diagnostic and therapeutic procedures, and the technic of them, are the resume of 32 years of practice in the home, the hospital, the maternity out-patient department, and extensive study and observation at home and abroad. Whatever the treatment called for, the details are scrupulously given. If it be drug, the exact dosage is given, and often actual prescriptions. If it be manipulation, you get that. If it be operation, every step in the technic is clearly given and strikingly illustrated.

Large octavo of 1123 pages, with 1128 illustrations, 201 in colors. By JOSEPH DELEE, M D., Professor of Obstetrics at the Northwestern University Medical School, Chicago. Cloth. \$12.00 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



# THE CHIEF REASON

FOR THE PHYSICIAN'S FEEDING THE BABY  
IS TO INSURE NORMAL HEALTHY GROWTH

**C**OW'S MILK MODIFICATIONS seem at present to be the safest and most adaptable food for the artificially fed infant.

Diluted cow's milk, with an added carbohydrate, meets the nutritional demands of a great majority of babies.

DEXTRI-MALTOSE, in addition to being the most easily assimilated form of carbohydrate, is marketed to the laity without directions.

The only manner in which instructions reach the mother is through her doctor. The Physician, then, **CONTROLS** his infant feeding cases.

## TO BE ON THE SAFE SIDE

As a prophylactic against Scurvy, Physicians prescribe orange juice.

To insure against Rickets, an extremely potent Cod Liver Oil is invaluable.

## MEAD'S CERTIFIED COD LIVER OIL

A dependable Cod Liver Oil of known potency, biologically tested for its antirachitic value.

MEAD'S CERTIFIED COD LIVER OIL is of such potency that sufficient quantities, both to cure and prevent rickets, can be added directly to the Feeding Formula without upsetting the fat proportions of the diet or causing indigestion in the baby.

( *Literature and liberal samples of MEAD'S CERTIFIED  
COD LIVER OIL sent at the Physician's request.* )



MEAD JOHNSON AND COMPANY  
EVANSVILLE, INDIANA, U. S. A.

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., NOVEMBER, 1924

No. 11

## EDITORIAL

### A RECORD BREAKING MEETING

Every record made by the Kentucky State Medical Association in the seventy-four years of its existence was broken in a recent Louisville meeting. 786 members in attendance not only breaks our record but it is the largest attendance that has ever been recorded for a State meeting by any state association in proportion to its membership. The attendance at the several sessions up to and including the very last was larger than ever before. More members of the House of Delegates were present than in any previous year.

The Presidential Address of Dr. Cowan was a classic.

The outstanding feature of the meeting was the Oration in Medicine by Dr. Palmer. We have never seen an audience carried to a higher plane of enthusiasm on any subject by any orator and the echoes of this wonderful message will be carried through the medical profession of Kentucky to that of other states.

Dr. Wallace Frank's Oration in Surgery was the complete scientific presentation of his subject that was anticipated when he was selected for the position.

But two authors of papers were absent. There was more discussion than there has ever been before. The two days of clinical sessions at the University of Louisville following the meeting were splendidly attended and afforded generous post-graduate courses for those who were present. In the reading pages of this issue will be found the minutes of the general session and the detailed proceedings of the House of Delegates. They will be read with interest by our members.

Especially noteworthy was the session held at the Central Kentucky Hospital for the Insane. A delightful luncheon was served for the 786 in attendance. The papers of Dr. Abell and Mrs. Semple presented squarely to the people of the State, through the medical profession, the problems of our State institutions. Their solution depends upon our wise leadership.

## STATE DUES

The study of the financial situation of the Association by the Finance Committee, of which Dr. Barkley, of Lexington, was chairman, resulted in a recommending that the State dues be increased to \$10.00 at the next annual session. This was wisely referred to the Council and, through it, to the county societies so that it may be discussed by each society and their delegates advised as to the wishes of the society for final action at Owensboro.

There is a natural hesitancy about increasing dues. If it can only be done it will mean increased effectiveness for the organization so that each individual member realizes that the increase would be of such value to him that it was worth paying. It is important for the members to recall that the present dues of \$5.00 have about the same purchasing value as the dues of 1902 had when the society was re-organized in 1898. Before that, the dues had been \$5.00. The cost of printing the JOURNAL per page is two and a half times as much as it was before. The cost of paper is four times as much. Attorneys' fees have more than doubled in the sixteen years since the organization of the Medico-Legal Committee. Dues have been increased to \$25.00 in several of the other progressive states. With this increase, the state associations are putting on post-graduate courses which are being carried to the several counties. Since the re-organization of the State Association at Paducah it has been its policy to publish in the JOURNAL all of the articles read before county societies, which are considered worthy of publication by the society. This policy, in judgment of those best qualified to judge, has been responsible for the scientific progress that has been of such benefit to the profession and public. It cannot be continued without an increased income for the Association. The advertising income of the JOURNAL can only be increased by increased patronage of our advertisers by our members. This income has shown a continuous growth from the beginning and will do so from year to year be-



cause this JOURNAL is the only publication we know in America which guarantees the financial integrity of the firms which use its advertising pages, but its gradual increase is not enough to cover the increased demand of a successful, growing organization. The State Chiropractic Association has dues of \$60.00 and the State Osteopathic of \$75.00. Each of these organizations, with a membership of less than a tenth of ours, has a larger income than ours. Their money is being wisely expended no wfor post-graduate improvement of their members.

We trust these matters will be carefully considered by the county societies at their meetings.

### THE NARCOTIC QUESTION

Our members are urged to read the proceedings of the House of Delegates, especially with reference to the enforcement of the Harrison and Volstead laws in the federal courts. The papers of October 4th carry the statement again from the federal authorities that Kentucky is the black spot next to the Pacific Coast states in the narcotic field. Another physician has been arrested in a raid and the entire profession of the State must suffer from the reflection cast upon it by this arrest.

Members of the medical profession understand that narcotics and alcohol can only be legally prescribed when they are indicated for patients upon whom the physician is in actual attendance and for diseases for which they are indicated in the treatment. Narcotics cannot be legally prescribed for habits. This is the decision of the Supreme Court and the law of the land, and physicians who violate it might as well realize now as after they are hauled in court that this practice must stop. Some of these old habits may die. As long as they are worthless while they are living, we submit that it is better practice to let them die than for the physician who relieves them to spend a term in the Federal penitentiary and be deprived of the right to practice medicine for the future. In several counties in the state, there are physicians who are still violating these laws. We trust the members of the county societies, who are aware of the facts, will counsel these weaker brethren so that the situation may be immediately relieved.

We desire to warn the profession again that an investigation is being made by the federal authorities of the practice of writing prescriptions for alcoholic beverages for social and other illegal purposes. The

physician has no more right to secure alcohol on prescription for social purposes than any other individual. It is only a question of months until we are going to be startled by the indictment of prominent members of the profession unless this practice is stopped.

The Kentucky State Medical Association has merited the confidence of the people and has received such evidence of that confidence that it is clearly up to us to keep our house, clean, and we propose to do it.

### DR. OLIN WEST PROMOTED

The entire profession of Kentucky will be gratified to note the selection of Dr. Olin West, recently of Nashville, Tennessee, as General Manager of the American Medical Association to succeed Dr. George H. Simmons, who has resigned.

Dr. West delivered the Annual Address before the Kentucky State Medical Association at its annual meeting in Bowling Green, where he was elected an honorary life member. As a general practitioner in Nashville, as Secretary of the Tennessee State Medical Association and the editor of its JOURNAL, as State Health Officer of Tennessee, as an officer of the Southern Medical Association and as a genial, cultured man and physician, Olin West has made good. No other man in America has had better opportunity for training and no other one could have entered upon the responsible duties which have come to him with more complete confidence from all who know him.

### ATTENTION EX-MEDICAL OFFICERS

Ex-Medical Officers with World War Service may be appointed in the Officers' Reserve Corps in the highest grade held by them during such service, upon inspection of their military records in the War Department, provided their applications are submitted prior to or not later than November 11, 1924. After that date, all applicants will be required to pass a professional examination, regardless of the fact that they have had prior commissioned service.

It would save individuals concerned the trouble of taking the professional examination if they would submit their applications for appointment before November 11, 1924.

You can make your application to Colonel Kirby Walker, Headquarters 64th Cavalry Division, 515 Post Office Building, Louisville. Better do it now!

## SPECIAL ARTICLE

# Obstetrical Column

Edited By ALICE N. PICKETT.

Director of Prenatal Clinic, Louisville City Hospital.

As secretary of the Kentucky Medical Association and editor of the State JOURNAL Dr. McCormack has received a communication from Dr. Geo. Clark Mosher of Kansas City. Dr. Mosher is chairman of the committee on maternal welfare of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons. This committee was formed from among the most outstanding obstetricians of America and has done a splendid piece of work in studying the difficulties, the failures and the successes of the American obstetrical world. We are devoting the obstetrical column this month to Dr. Mosher's message because we feel this would be the wish of every doctor of the state who is trying for the greater safety of the Kentucky mothers.

Dr. Mosher's letter is as follows:

Kansas City, Mo.,  
Aug. 30, 1924.

A. T. McCormack, M.D., Editor,  
Bowling Green, Ky.

Dear Doctor:

A nation wide movement for improved conditions in maternal welfare is being inaugurated through the combined efforts of a joint committee representing the American Gynecological Society, the American Child Health Association, and the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

An appeal is being made to the Secretaries of the State Medical Associations to enlist the co-operation of their members and also of the constituent County Medical Societies to stress the subject of obstetrics in the programmes of their meetings and try to have more papers and discussions on the topics vital to this most essential branch of our work.

The reason for the propaganda is that recent statistics are published showing a deplorably high mortality in maternity work in our country. *A Washington report gives the United States the unenviable position of third from the highest death rate in both sepsis and eclampsia among the seventeen civilized nations of the world.* These two accidents are almost absolutely preventable. Among the reports from sections where prenatal care is taught and where aseptic care observed in labor the mortality is reduced one-third to one-half the average in the same region.

So many other features, while not so

tragic, demand reform in obstetrics that the committee hopes within *five years* that not only the mortality of mothers and children may be reduced, just as the profession has cut down the death rate in typhoid fever, tuberculous and diphtheria in recent decades; but also that obstetrics may be again placed on the plane with internal medicine and surgery, a dignity which it formerly occupied in the colleges and in the profession, as one of the three great branches of the healing art.

This is a work of education, and it demands the co-operation of teachers and specialists in obstetrics, general practitioners, nurses, and the general public, to accomplish so ambitious a programme.

A copy of the annual report to the American Association of Obstetricians, Gynecologists and Abdominal Surgeons is sent under separate cover attaining some of the conditions found and showing the more hopeful outlook for the future.

(Signed)

Fred L. Adair, M.D., Minneapolis,  
Henry Schwarz, M.D., St. Louis,  
Robert L. DeNormandie, M.D., Boston,  
Geo. W. Kosmak, M.D., New York,  
Frank W. Lynch, M.D., San Francisco,  
Ralph W. Logenstine, M.D., New York,  
Wm. Clark Danforth, M.D., Evanston, Ill.,  
Geo. Clark Mosher, M.D., Kansas City, Mo.

Will you lend the invaluable aid of your columns to forward this movement?

Besides the annual report of his committee, Dr. Mosher sent a copy of his article "Maternal Morbidity and Mortality" as published in the Journal of Obstetrics and Gynecology March, 1924.

We regret that we have not space for these two reprints in their entirety. The article contains in its opening paragraphs, the following:

"Maternal morbidity and mortality have not been reduced in the United States in the last twenty years; according to the census reports, 16,000 women die in labor annually."

"In the loss of mothers, the United States stands fourteenth among the so-called civilized nations, only Spain and Belgium having a higher death rate."

"Puerperal septicemia and eclampsia claim over one-half of all the patients who die. Oliver Wendell Holmes in 1845 pronounced child bed fever "a private pestilence" and showed that it is preventable."

"Joseph B. DeLee in 1923, gives records of 40,000 cases of labor in the Chicago Lying-In Hospital without a death from eclampsia."

Dr. Mosher's committee sent out a questionnaire into every section of the country,



—an S.O.S., asking "What's the matter with Obstetrics?" Replies came in from every quarter, especially thoughtful ones from the obstetricians connected with large maternity hospitals and medical schools.

In his two publications, Dr. Mosher quotes Dr. Edward P. Davis of Philadelphia, Dr. Newell of Harvard, Dr. Hannah of Baylor University, Dr. Talbott of Worcester, Mass., Dr. Mendenhall of the University of Indiana, Dr. Williams of Hopkins, Dr. DeLee of Chicago, Dr. Asa Davis of New York and many other national leaders. The concensus of opinion is summed up by Dr. Mosher as follows:

"The inevitable conclusion to be drawn from these expressions of opinion which typify the feelings of a large number of the thoughtful and progressive leaders of the profession, may be summarized in the comprehensive statement that much of the responsibility for the untoward results of child-birth rests within our own ranks.

"The rapid decrease in the number of midwives in practice; the more drastic supervision by Departments of Health over them in the regions where they are still popular, or indispensable because of the lack of physicians; the realization that their work, among the part of the population whom they serve, shows no higher percentage of bad results than the general average of the community; these considerations eliminate the midwife as a factor to be reckoned with in the solution of the question of the continued high rate of maternal mortality.

"In the towns and rural districts and very largely in the cities, the family physician, owing to tradition, sentiment, self-interest or convenience, will care for child-birth and the average result of his work will represent the status from which statistics will be drawn.

"This work will continue to be conducted in the home. The great majority of women, who are serving to perpetuate the best elements of the human race belong to the class of intelligent, self-respecting families who are dependent on salaries or weekly wages.

"The disproportionately small amount of space allotted to the wards of our hospitals, the high price of the rooms and the general coincident expense makes any but charity hospital service prohibitive to this class of women. Special nurses are equally prohibitive. Obviously home confinements involve much greater risk.

"The causes operating to lower the standard of the work of the general practitioner have already been suggested. They may be summarized as follows:

Insufficient training in our medical schools.

Lack of hospital post-graduate training which will enable the physician at least to diagnose abnormal positions.

Lack of appreciation of the fact that the process of labor is not surgical.

Lack of dependence on the obstetric specialist for diagnostic counsel rather than on the young surgeon whose obstetrical experience and preparation may be even less extensive than his own.

"It is the part of those of the profession who are fitted by education, by training and by experience to take the lead in instituting a program that will remedy these conditions and thus raise the standard of the work of the general practitioner.

"Obstetrics should be made a specialty of the same rank as surgery. As many hours of the college curriculum should be given to the drilling of the medical student, in the principles of the one as of the other. In a larger degree he needs a familiar knowledge of the art of obstetrics, because, regardless of his training, he will, on entering practice be called upon to attend women in labor long before he will be called to do operative surgery. He hesitates to call counsel in labor regardless of the condition of the patient because of the possible reflection on his ability. Without question he can call counsel in a surgical case without affecting his professional dignity because surgery has always, with the laity, been considered the part of the specialist. Not infrequently when counsel is called, the young practitioner yields his own judgment of the need of obstetrical assistance to the demand of the family for the only generally known specialist, and summons the aid of the surgeon.

"Several years ago Dr. J. Whitridge Williams wrote a paper on the teaching of obstetrics, in which some scathing comments were made on the methods which were then employed. There has been some improvement since 1910 but even today, with the enormous shrinking in the number of medical schools and the practical elimination of privately owned medical colleges, the demand for competent instructors in obstetrics is great, while the quality of teaching is woefully inadequate.

"In no other branch of medicine is there so much chaotic difference of viewpoint as in obstetrics; nor is there elsewhere such exhibition of diversified technique as there is in the management of labor. A recent editorial in the JOURNAL of the American Medical Association, commenting on this radical divergence of opinion and its disastrous

consequences, sums up the subject by maintaining that in obstetrics, individualization is absolutely the key-word.

"Among ourselves as specialists, individualization is possible and desirable. Individualization, however, will not solve the problem for the general practitioner. He must be satisfied with a generalization of the minimum standard of obstetric management.

"Certain procedures are now recognized as a part of the routine technic of good obstetrics, that a decade ago were certainly individual, especially those relating to diagnosis and asepsis. The general practitioner, who, as a medical student, failed to acquire the fundamentals of obstetrics, or if he acquired them, fails to apply them, accepts his morbidity and mortality as inevitable because he is callous to their significance.

"If every general practitioner, nay, if every man who undertakes the care of a maternity case, could be compelled to take a short post-graduate course every five years, induced to occasionally attend one of the clinics being held annually in many of the large centers and be urged meantime to read the standard medical journals, the result would be quickly appreciable upon the statistics of maternal morbidity and mortality. These have been so long stationary that they seem, as it were, to have become a permanent reproach to the doctors of this country."

Dr. Mosher and his committee beg that we doctors of Kentucky see to the reduction of our maternal and infant mortality within the next five years. Such an appeal will not go unheeded. Already our people both lay and professional are awake to the necessity for redoubling the care of mothers and babies. Within less than the five years designated, one might even prophesy that within the next two years, we will make a better showing. More and more attention is being paid by the doctors of the state to prenatal care. The routine taking of blood pressure records is reducing eclampsia. Pelvimetry is lessening the number of "emergency" Caesarean sections. Best of all the wide spread employment of sterile rubber gloves is banishing the specter of puerperal sepsis from our delivery rooms.

In order to show us how we stand at present, Mr. Blackerby, our state registrar has supplied the following figures:

For the State of Kentucky 1923.

Total deliveries .....	67,303
Live Births .....	65,062
Still Births .....	2,240
33. per 100.	

Delivered by physicians (live births) 53,351  
 Delivered by midwives (live births)....11,711  
 Deaths under 1 year of age..... 4,593  
 70. per 1000.

Maternal deaths from Puerperal Septicemia .....	148
Maternal deaths from other puerperal causes .....	186
Total maternal deaths .....	334
or 4.8 per 1000.	

As soon as they may be had, we will publish the statistics for 1924.

May we find we have lost this year fewer than 334 of our mothers and less than 6,833 of our babies.

## OFFICIAL ANNOUNCEMENTS

### OFFICIAL MINUTES OF THE SEVENTY-FOURTH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION HELD AT BROWN HOTEL LOUISVILLE, SEPTEMBER, 22, 23, 24, 25, 1924.

The First General Session of the Seventy-fourth Annual Meeting of the Kentucky State Medical Association was called to order at nine-thirty a.m., Tuesday, September 23, 1924, at the Brown Hotel, Louisville, by President Frank Boyd, of Paducah.

Rev. Charles W. Welch of Louisville gave the invocation.

The address of welcome was given by W. I. Hume, of Louisville, and responded to by Z. A. Thompson, of Pikeville.

Frank Boyd surrendered the gavel to the incoming President, J. R. Cowan, of Danville, who gave his address on The Value of a Medical Organization.

The papers at the Scientific Session on Tuesday Morning, September 23rd. (Presided over by C. W. Dowden, Vice-President Louisville) were: Intracranial Hemorrhage of the New Born, by James H. Pritchett, Louisville. Discussed by S. D. Breckinridge, Lexington, Phillip S. Barbour, Louisville, Jas. White Bruce, Louisville, J. Garland Sherrill, Louisville, Edward Speidel, Louisville, and Morris Flexner, Louisville, and in closing the essayist.

Idiopathic Purpura Hemorrhagica, by Morris Flexner of Louisville. Discussion by Louis Frank, Louisville, and in closing by the essayist.

Results of Treatment of Tuberculosis at Hazelwood, by S. W. Bates, Louisville. Dis-



cussion by A. T. McCormack, Louisville, J. A. Flexner, Louisville, J. S. Lock, Louisville, and closing discussion by the essayist.

At eleven-forty-five a.m., L. Wallace Frank, of Louisville, gave the Oration in Surgery, entitled Surgery of Goiters.

The scientific session Tuesday afternoon was held at Lakeland, with a program at 4:10 o'clock following a visit through the wards. C. W. Dowden, Louisville, presided. Addresses by Irvin Abell, Louisville, on The State Hospitals for the Insane, and Mrs. Chas. P. Semple, Louisville, on State Institutions were discussed by John J. Moren, Louisville, Stuart Graves, Dean of the Medical School, University of Louisville, Geo. H. Day, Louisville, W. E. Gardner, Louisville.

Essay by Wm. J. Shelton, of Mayfield, on Simple Diarrhea in Infancy, discussed by J. W. Kincaid, of Catlettsburg.

The scientific session on Wednesday Morning, September 24th, was called to order at nine o'clock by C. W. Dowden, Louisville. The essays on Pyelitis, Its Recognition, by Vernon Blythe, of Paducah, and Renal Infection in Pregnancy, by Geo. H. Day, Louisville, were discussed by J. H. Blackburn, Bowling Green, P. H. Stewart, Paducah, H. G. Sandlin, Richmond, and W. W. Anderson, Newport. Closing discussions by essayists.

The essays by C. C. Howard, Glasgow, on Blood Transfusion, Its Indications, by R. L. Woodward, Hopkinsville, on Blood Transfusion, Various Methods and Results, and by Leon K. Baldauf, Louisville, on Blood Stream Infections, Laboratory Viewpoint, and V. E. Simpson, of Louisville, on Mercurochrome in Blood Stream and Other Infections, were discussed by Geo. W. Purdy, New Liberty, J. Rowan Morrison, Louisville, J. Garland Sherrill, Louisville, Louis Frank, Louisville, J. A. Stucky, Lexington, and Henry Rubel, Louisville, with closing discussions by the essayists, Drs. Howard and Simpson. In connection with Dr. Baldauf's essay there were lantern slides shown by Dr. Williams (dentist) of Louisville, and a discussion by G. H. Heyman (dentist) Louisville.

The Secretary introduced Dr. Robert Carothers, of Cincinnati, who gave a short talk. Upon motion of Dr. McCormack, regularly seconded and carried, Dr. Carothers was elected an honorary life member.

John Sullivan, of Covington, spoke on the Crippled Children subject.

J. A. Stucky, Lexington read a short paper on the Transylvania Medical Library.

The essay by J. W. Stephenson, Ashland, on Local Anesthesia, was discussed by W. I.

Hume, Louisville, A. J. Bryson, Ashland, John Price, Louisville, M. Casper, Louisville, J. G. Carpenter, Stanford, and T. D. Goodman, Ashland.

At twelve o'clock E. L. Palmer, Louisville, gave the Oration in Medicine, on The Doctor, Past, Present and Future.

The Wednesday Afternoon Session was called to order at two-fifteen by Irvin Abell, Louisville. The essays by Gavin Fulton, Louisville, on Indications and Methods of Inducing Abortion and Premature Labor, by S. D. Breckinridge, Lexington, on The Abuse of Forceps and other Methods of Hastening Delivery, by Henry Rubel, Louisville, on Treatment of Eclampsia and Pre-Eclamptic Toxemia, and Walker B. Gossett, Louisville, on Present Status of Pituitary Extract in Obstetrics, were discussed by Alice Pickett, Louisville, Edward Speidel, Louisville, Neville Garrett, Frankfort, O. O. Miller, Louisville, Wm. T. McConnell, Louisville, Wm. H. Emrich, Louisville, and R. A. Bate, Louisville, with closing discussion by the essayist.

Geo. A. Hendon, Louisville, gave an essay on Breast Tumors, Benign and Malignant, discussed by Irvin Abell, Louisville, J. G. Carpenter, Stanford, A. D. Willmoth, Louisville, D. Y. Keith, Louisville, S. J. Smock, La Grange, W. L. Mosby, Bardwell, and closing discussion by the essayist.

S. G. Dabney, Louisville, read an essay on Throat Coughs, discussed by W. B. McClure, Lexington, A. L. Bass, Louisville, Gaylord C. Hall, Louisville, O. O. Miller, Louisville, C. E. Purell, Paducah, with closing discussion by the essayist.

The Wednesday Evening Session, at the Elk's Club, 8:00 p.m., was addressed by W. D. Haggard, of Nashville, on "The Problem of the Physician's Relationship to the Public." Upon motion regularly made, seconded and carried, Dr. Haggard was elected an honorary life member to the Kentucky State Medical Association.

The scientific session on Thursday Morning, September 25th, was called to order at 9:45 by J. W. Kincaid, Catlettsburg.

John R. Meek, of Covington, read an essay on The Early Recognition of Goiter and the Dangers of Procrastination in Treatment. Discussion by John R. Wathen, Louisville, Richard Hayes Davis, Louisville, A. T. McCormack, W. D. Haggard, Nashville, President of the American Medical Association. Closing discussion by the essayist.

Chas. D. Enfield, of Louisville, read an essay on Gall Bladder Shadows with slides. Fred Rankin, Lexington, read an essay on The Diagnosis of Gall Bladder Infection and

Its Differentiation from Gastric and Duodenal Ulcer. Discussion on these two essays by C. W. Dowden, Louisville, D. Y. Keith, Louisville, Curran Pope, Louisville, with closing discussion by the essayists.

The Kentucky State Medical Association met jointly at luncheon with the Louisville Rotary Club, which was addressed by W. D. Haggard, Nashville, President of the American Medical Association.

The Thursday Afternoon Session, September 25th, was called to order at 2:15 by J. W. Kincaid, Catlettsburg. William A. Jenkins, Louisville, read an essay on The Treatment of Gall Bladder Infections. Is There a Medical Treatment? Discussion by B. F. Robinson, Berea, Robert Carothers, of Cincinnati, J. G. Carpenter, Staunton, A. D. Willmoth, Louisville, and R. A. Bate, Louisville. Dr. Jenkins closed the discussion.

The Secretary presented J. W. Price, of Louisville, who introduced Alfred Stengel, of Philadelphia, who read an address.

J. G. Sherrill, of Louisville, read an essay on Action of Muscle Groups in Production of Deformity Resulting from Fractures. Horace Rivers, Paducah, read an essay on Open Method of Treatment of Fractures. C. A. Vance's paper on Treatment of Fractures of and about Joints was read by title, and J. M. Salmon, Ashland, read an essay on Treatment of Hip Fractures. These essays were discussed by Chas. C. Garr, of Lexington, Robert Carothers, of Cincinnati, J. H. Blackburn, Bowling Green, I. A. Arnold, Louisville, and Geo. A. Hendon, Louisville. J. G. Sherrill closed the discussion.

The meeting adjourned sine die at five-ten p.m.

A. T. McCormack, Secretary.

#### PROCEEDINGS OF THE SURGICAL SECTION

The meeting of the Surgical Section of Kentucky State Medical Association was called to order at 8:15 p.m., Thursday, September 25th, by George Hendon, of Louisville.

Upon motion regularly made, seconded and carried, the reading of the minutes of the last meeting was dispensed with.

The following officers were elected:

President .....J. G. Sherrill, Louisville  
Vice-President .....Horace Rivers, Paducah  
Secretary .....C. G. Hoffman, Louisville.

W. D. Haggard, of Nashville, President of the American Medical Association, read an address on "Some Problems in the Surgery

of the Biliary System," with lantern illustrations.

Granville S. Hines, of Louisville, read a paper on "Diseases of the Terminal Bowel and Their Remote Responses," with lantern slides.

#### OFFICIAL MINUTES OF THE HOUSE OF DELEGATES OF THE SEVENTY-FOURTH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION HELD AT THE BROWN HOTEL LOUISVILLE, SEPTEMBER, 22, 23, 24, 25, 1924

##### SEPTEMBER 22.—FIRST SESSION OF THE HOUSE OF DELEGATES

The First Session of the House of Delegates of the Kentucky State Medical Association, September 22-25, 1924, at the Brown Hotel, Louisville, was called to order at 2:10 p.m., by President Frank Boyd, Paducah.

**PRESIDENT BOYD:** The House of Delegates of the Seventy-fourth Annual Meeting of the Kentucky State Medical Association will now come to order.

The first order of business is the report on Credentials by W. B. Moore, of Cynthiana, Chairman.

**THE SECRETARY:** The Committee on Credentials has presented the list of Delegates certified by the presidents and secretaries of the various County Societies, and I can report that a quorum is now present. I move that this list be the official roll-call of the House of Delegates.

The motion was regularly seconded and carried.

**PRESIDENT BOYD:** We will now have the roll-call.

R. C. McCHORD, Lebanon: I move that be postponed until a later hour.

The motion was seconded and carried.

**PRESIDENT BOYD:** The next order is the reading of the minutes of the 1923 Meeting.

V. E. SIMPSON, Louisville: I move the reading of the minutes of the 1923 Meeting at Crab Orchard be dispensed with since they were published in the JOURNAL.

The motion was seconded and carried.

**PRESIDENT BOYD:** The next is the report on the Program, by Louis Frank of Louisville.



**THE SECRETARY:** Dr. Frank is not present, but I would like to report the program as printed, with the substitution of Dr. Gavin Fulton's name for Dr. Aliee Pickett's in the program. I move it be adopted as the official program of the Meeting.

The motion was seconded and carried.

**PRESIDENT BOYD:** Next is the report of the Committee on Arrangements.

J. B. LUKINS, of Louisville, Chairman of the Committee on Arrangements, reported entertainment features.

**PRESIDENT BOYD:** The program shows the next item as the report of the President. I am going to call on the Secretary to read the report of the Council for the past year, all of which I heartily endorse and which is better compiled than I could render a formal report.

I want to call attention to one fact, that the meeting we had at Frankfort of the Councilors to take up with the Governor the legislation which was trying to be forced through the House and the Senate and which we considered very inimical to the profession and to the people of Kentucky as well, was successful. That legislation was defeated, and we consider it a great victory for the people of Kentucky.

Before Dr. McCormack presents the report of the Council, we should have the report of the Secretary.

**THE SECRETARY:** Mr. President, the reports of the Secretary and Treasurer have been made jointly and are published in detail in the JOURNAL together with the report of the auditor.

The membership for the past year, as for the past five years, has been practically stationary.

There is one thing that I desire especially to recommend to the Councilors and Delegates, and that is that we get over to the doctors the fact that under the operation of our Medico-Legal Committee, the men who become delinquent at the first of the year from failing to pay their dues promptly lose protection from malpractice suits for all of their previous years of membership in the Association; that is, they are in the same fix exactly that a man would be with an insurance policy if it is permitted to lapse. He starts anew when he pays his dues again. During the year that has been the cause of two excellent men having to pay very large amounts of money in both those particular cases for their defense against malpractice. It is the only way it can be done, for obvious reasons. You can see that if the dues can be paid at any time and a man has a suit

brought and then pays his dues after having been out of the society for two or three years and not making any contribution to the work of the society, the situation is an impossible one. Under the law, we can only defend the members who are in good standing and who stay in good standing.

It is perfectly evident that a great many of our doctors don't know that. They pay their dues any time during the year and think they are in good standing in the society. There are nearly 300 other men besides those who are on our roll, and I am perfectly well satisfied that if any of them were asked whether they were members of the state or their county societies, they would say they were, and they really think they are.

The Society is not only the great social and welfare organization that it has always been, but it is undertaking certain definite business policies that it can only perform on a business basis, and the membership ought to pay their dues as regularly on the first day of January as they pay their insurance on the day their insurance is due. This has become a real obligation and is a very important one.

At various times since the reorganization of the various state societies and of the American Medical Association in 1897, the suggestion has been made in Chicago that the general managership of the American Medical Association and the editorship of the JOURNAL and the secretaryship should be divided so that three men would occupy the positions instead of one man. From time to time in the state in the same way the suggestion comes up that the secretaryship of this Society and the secretaryship of the State Board of Health should be divorced and should be held by two different men. I think it is very important that that matter should have the consideration of the House of Delegates. It is a matter that ought to be determined, and, of course, I know would be by this House of Delegates entirely impersonal. At such time as the House of Delegates feels it is the thing to do it should be done in Kentucky.

The services that are rendered both by the State Board of Health and in this Association we should always realize as our responsibility, the responsibility of this House of Delegates and of this Association, and whenever the work is not being done in principle or in practice in accordance with the responsibility that the people of the state have put on our shoulders, it is our duty to examine into the matter and perform our duty, and

no individual has any right to consideration in such a matter as that. The important thing for us to do is to realize that in Kentucky more than in any other state in the Union, except Alabama, the public has placed on our shoulders fairly and squarely the responsibility for the public health movement in the state. An attempt was made to take that from the profession and it failed because of the public confidence in the medical profession; that is the reason we won that fight, not by political manipulation or by trickery or treachery or any other thing, but because the representatives of the profession, clothed with authority to speak for it, spoke in such tones as to command the respect and the confidence of our representatives in the General Assembly, supported by the public press and by the people of the state.

We don't want to be put in the attitude of correcting any of our alignments under fire. We don't want to be forced to do anything; we want to do what we do in good order and do it because it is right and not because it is expedient. For that reason I make the suggestion that the House of Delegates through its committees carefully consider this question, because whenever the time comes that it is the right thing to do, the House should have it squarely put before it and should determine it and should carry on as it sees best.

That is true in respect to all of the problems that come before this House of Delegates.

I think one of the most gratifying things that has happened in the history of the Association was that yesterday I had seven long distance telephone messages or telegrams from members of the House of Delegates who said that they would not be here when the House of Delegates opened up but would arrive some time during the afternoon or evening, stating the time. It shows the increased feeling of responsibility that members have for these transactions, and if the House is fully impressed with its responsibility and carries on in the light of its knowledge of the public demands and the public feeling, I feel sure this Association will go forward in the future with even greater progress than it has done in the past.

**PRESIDENT BOYD:** The next is the Treasurer's report.

**THE SECRETARY:** The Treasurer's report is included in the published report, and I move they both be referred to the Auditing Committee.

**V. E. SIMPSON, Louisville:** I second the motion, but I would like to make an inquiry before the matter is closed, with regard to

the Secretary's remarks concerning the insurance feature of the Association. The dues are due at 12:01 o'clock a.m., on the morning of January 1, 1925, legally. If his remark is to be construed literally, the cheeks will have to reach the Treasurer on the day of the 31st of December or not a single man in this organization is protected as far as malpractice suits are concerned. I would like to inquire if it has not been the custom (whether it has taken on the nature of a violation of the legal phase or not I do not know) that a certain time of the year has been fixed by the Secretary's office at which time the JOURNAL is no longer mailed to a man and he is considered in arrears. I recall that is the 1st of April. Is that to be abandoned in the future?

**THE SECRETARY:** I didn't follow through on that; I just hit at the ball and topped it. A man who pays his dues before the 1st of April remains in good standing throughout the year. He still has the same three months he always has had, but the important thing is to get the idea to the membership that they ought to pay as near the first of January as possible, because if they have the habit of paying on the first of January they are always paid up, while if it is spread over three months, they are apt to think they will pay some time during that three months and forget they have not paid. That has been the trouble, I think, in the past.

The motion to refer the report of the Secretary and Treasurer to the Auditing Committee was carried.

**PRESIDENT BOYD:** Dr. McCormack will now read the report of the Council.

**THE SECRETARY:** The report of the Council has been published, but it is such an important report that I believe it ought to be read in full. I believe it is the charter of our action during the year and of our action during this meeting.

The Secretary read the report of the Council, printed in the Annual Number of the KENTUCKY MEDICAL JOURNAL on Page 331.

**PRESIDENT BOYD:** This goes to the Committee on Report of the Council.

We will now have the report of the Councilors by Districts.

#### REPORT OF COUNCILOR OF THE FIRST DISTRICT

**V. A. STILLEY, Benton:** The condition of the medical profession in our end of the State we think is in fairly good shape. We perhaps have lost a few in membership, but



that was through death or because they moved out of the county. We have four members more than we had last year when we made our report of 1923. I have visited a number of the counties. The work and co-operation and fellowship between the members of the society seem to be good.

We have had two or three tuberculosis clinics, which were well attended. We were very much gratified to know that almost every physician in the county took part in them. It was not a one-sided affair; we had the co-operation of practically every man in the county.

In one or two counties in my district the county society does not function, but we hope to have next year a report that every county in the First District functions well.

#### REPORT OF THE COUNCILOR OF THE SECOND DISTRICT

D. M. GRIFFITH, Owensboro: We have 145 members this year as compared to 177 members last year, and we are yet to hear from Muhlenberg County; that is 32 members short, and I think when we get the additional report from Muhlenberg County we will make up to about what we were last year.

The conditions in the Second District are as desirable as could be expected. There is very little dissatisfaction in any quarter. Of course, Henderson County will always have a few factions; they are good men, too, but there is a controversy there that is like Tennyson's brook, I am afraid it will go on forever.

THE SECRETARY: There is a condition in Muhlenberg County to which attention ought to be directed. The Delegate from Muhlenberg County has told me that they were unable to maintain their society because one of their members has made no birth reports in four years, although he does an ordinary obstetrical practice, and he was arrested and fined. The other doctors were so indignant because of that that they had no meetings of the County Society, and the organization is practically disrupted. That is an inconceivable situation. I don't believe those doctors realize what they are doing. It is absolutely inconceivable that any society in any section of the state can stand by and support its members if they violate the law. That is our law; we put it on the statute book; it wouldn't have been there at all if it had not been for this Association. It was put on by the efforts of the Society and it is of very great interest that at the first meeting of the Kentucky State Medical Society

in 1851, Dr. Sutton delivered his presidential address on the subject of "Vital Statistics" and as the result of that address the first vital statistics law was passed in Kentucky, the third in the United States in 1851. Unfortunately it was a wholly inoperable law, but that did not affect the principle. Dr. Sutton's speech delivered at that time could be delivered today as a great appeal to the profession to perform its civic duty. Since 1914, it is of interest that there has been less than a score of doctors at any time in the State who have not been making their birth and death reports with a fair degree of promptitude and with almost a perfect percentage as far as reports are concerned eventually.

In the counties where these failures are made, it is absolutely essential that arrests be made. One of the members of the good county of Boyd, where such splendid work is being done, was called before the court the other day and fined. You don't hear any reaction from that society on that account. They are sorry for the fellow, not because he was fined but because it was necessary to have to fine him. That is true all over the State.

Here in Louisville recently nineteen doctors have been fined for failure to make reports. Twelve of those were darkeys whose chief activity was writing Volstead Act prescriptions and selling prescription books, but we have some good negro doctors here, though they are very scarce. The prosecution of these doctors was unanimously supported by the profession.

I think our good friend down in Muhlenberg ought to go and have prayers with that brother who is wrong and get him straight. I think it is important that the whole profession in the State understands that the profession does not propose to protect its members who violate the law.

W. C. USSERY, Paris: Will the time ever come when we will be required to report only to the county clerk or to a local registrar living in the county seat? There may be a reason, and no doubt a good one, for this rule to report according to precincts. Even in my own county, which I think I know as well as my own room, I do not always know the precinct in which my patient lives. Neither does she, nor does her husband. They sometimes live in one precinct and vote in another. I know I have sent in birth returns of a baby born in one precinct when it really may have been born in another.

I have occasion to report births from every county that adjoins Bourbon, and

I don't know the precincts, nor do the people who live there. They formerly lived in Bourbon and have moved to these other counties, else they would not have sent for me. They don't know in which precinct they live because they have not lived there long enough, and they don't even know where they are voting.

I sent those returns to the county clerk in the county in which the birth occurred. I knew nothing else to do. It seems to me that it would be immensely simplified for the doctors, particularly those who are a little bit negligent in attending to their duties, if they could send their birth returns to the county seat. It would bring a lot of them into line. It could be done if there is nothing back of it of more vital importance than I know of at the present time.

THE SECRETARY: I am very glad indeed that Dr. Ussery raised that point, because it is one that is raised privately every now and then, and it is so important that it ought to be answered publicly, because every doctor in the state ought to know about it.

Of course, there are many counties in which communication with the county seat is so difficult and the roads are bad and people live out in a particular precinct, and the doctor can make his report locally much more effectively, and the local registrar keeps up with births and deaths more effectively than the county clerk could under the old law, which was inoperable. In order to cover the situation for Bourbon and such counties, for Bourbon is really one big precinct because everybody in the county concentrates in Paris and everybody in the county is in Paris several times a month, the law was amended in '14 or '16 so that every registrar in the state is a deputy of every other registrar. Where you are in doubt about the precinct, make it as accurate as possible, locate the case as accurately as possible, but you can send the report to the local registrar in Paris and when it gets in to the state office it will be credited to the proper precinct. County clerks were so frequently elected because they had a leg off or a wooden head or some other artificial appendage that they didn't attend to the job, and it was practically impossible to get them to do it. For that reason the local registrar system was adopted all over the United States except in the states where they had the old vital statistics law, which is still inoperable, as in Illinois. It is very important for the doctors to know that they can send their certificates to the local registrar nearest them regardless of the

precincts which the certificate belongs. It will be corrected in the State office.

J. G. CARPENTER, Stanford: What about the registration of genito-urinary diseases?

THE SECRETARY: The general practitioners usually comply with the law in reporting venereal diseases. Seventy-five per cent of the practitioners of the state report their venereal diseases promptly and effectively. The specialists as a rule don't do it. The specialists have rather gotten the idea that because they are diseases of the privates they are private diseases, and that has been very difficult to overcome. There are a few now doing it.

It is rather difficult for the physicians of the state to understand what the venereal disease report law means to them. A man or a woman with gonorrhea or syphilis in the contagious stage is as dangerous as a mad dog; they cause more harm than any other class of sick people that are infectious. The doctor who fails to report one of those cases by name or number (if it is a case where there is any reason for keeping the individual's name secret he can report the case by number) is not doing his duty. If he reports by number he can say to the patient, "I have reported you to the county health officer. He has reported you to the State Board of Health. As long as you obey the law and don't infect anybody else, as long as you carry out my instructions and come regularly for your treatment when treatment is necessary, that is all I have to do, but under the law if you fail to come for your treatment when the treatment is necessary, it is necessary for me to report you to the health officer by name and he reports you to the State Board of Health and they will quarantine you in your home just as they would if you had any other infectious disease." It keeps the pressure on the patients so they are treated through the infectious stage and through the disease. It is the only means that has ever been devised to do it.

In the counties where reports are made regularly and systematically by the entire profession, it has been a most interesting thing to see how rapidly the percentage of venereal diseases has decreased. In the counties that have failed to make the reports, the studies that are made by the United States Public Health Service show there is practically no change in the number of venereal diseases. I don't think that has been shown in any county in the state better than in Boyd County where they have from the be-



ginning conducted one of the most extensive venereal disease clinics that has occurred anywhere. I think more patients are treated free in Boyd County than in any other county in the State of Kentucky. The interesting thing about it is that the doctors there at the beginning rather felt that too many cases were going to be treated free, and yet as the end result of it the doctors in Boyd County are treating more pay cases of venereal diseases because of the reports and because of the pressure applied than ever before.

The same thing happened here because of the enforcement of law. At present it is not being enforced. For eight years, up to last year, it was enforced splendidly here and we were doing splendid work in this county.

If the doctors of the state could all just get the idea once, and all operate, that we can keep our venereal disease cases in our hands if we report them and put the pressure on them, we could keep the percentage down. Of course they have a right to change doctors, but when they change they ought to report to the doctor they leave and have the doctor that takes up the case take up the report and carry the case on. In every county where that is done the result has been most satisfactory.

J. G. CARPENTER, Stanford: It has been my observation that I see more gonorrhea and syphilis after the racing season and following camp meetings than any other time of the year. Shall we abolish the races and the camp meetings? That is a medical question.

THE SECRETARY: That is a question that I would refer back. I feel about that a good deal like the Episcopal bishop of Pennsylvania who was once called on to conduct the Sunday School services. That morning the lesson happened to be about Jacob's ladder. He asked the class if any little girl or boy wanted to ask the bishop a question. One little tot four or five years old popped her finger and said, "If de angels had wings an tood fy, what would dey want wid a ladder for?"

The bishop, thereby showing he was a true bishop, said, "Now if there is any little girl or any little boy that would like to answer that question I would like for them to; I can't."

#### REPORT OF COUNCILOR OF THE FIFTH DISTRICT

C. G. HOFFMAN, Louisville: I have a very short report to make. I have been taken to task several times by your Secretary about laxity in co-operation of these societies

in my District. As you know, there are several counties like Gallatin, Boone, Spencer and Owen where there are only a few men, and it is hard to hold them together without visiting each one yearly. For instance, last year I had a very enthusiastic meeting in Boone County. They reorganized, elected officers, and that was the last we ever heard of them. According to Dr. McCormack's report, we only have one member in that county society this year as against five last year.

Gallatin County is reduced from five to four, Owen County from eight to seven. In Spencer County we had only two members, and one of those has dropped out. Trimble County has been reduced from one to nothing, so you can see the situation in the counties in my District. Of course, Jefferson County takes care of itself.

Anderson County has an enthusiastic Society, and so has Franklin. I attended the Franklin County Medical Society early this spring, and I have never attended a more enthusiastic meeting in my life for a small county society. They keep in contact with each other, and their society is intact. In these other county societies we cannot keep the membership intact; there are so many small, petty jealousies among the men.

At one of the county societies that I visited last year, one of the men said, "Well, if So-and-so belongs to this society I am not going to come," and another said, "If So-and-so doesn't belong to this society I am not going to belong." We have that arising all the time. What is going to be done is a question.

At the meeting last year at Crab Orchard, I think the retiring President suggested that we have District meetings in the small counties. I think that is the only way out of this problem—to have District meetings in the small counties, say, once or twice a year where four or five counties can meet together or the counties in one District can meet together, giving programs that will be interesting to the men and that will keep their enthusiasm up.

I asked Dr. McCormack to express himself on this subject last year. He didn't. I don't think he is very much in favor of it, but something has to be done for these small county societies. I have done my best to hold them together. It is very discouraging to write to the secretaries and have them return the letter and say, "I am not secretary now. I don't know to whom to refer you. I don't know who is secretary. I don't know anything about it." How are you going to

get those people together for anything? Dr. McCormack knows whenever we had a meeting it was advertised extensively through the State Society office, and we have done everything to get them together.

Outside of Jefferson and Franklin and Anderson counties we have a terrible situation. I would like to hear some one express their opinion as to some method to follow in the future with these small counties where there are only three or four members.

**THE SECRETARY:** I hope when the time comes Dr. Gross and Dr. Cawood, who are here from Harlan and Perry counties, will recite their experiences in the early days in those counties and the result that has been obtained by careful and consistent work on the part of the county secretary and the Councilor.

In Perry County when the State Association was reorganized, Dr. Gross was the Secretary, and at that time there were three doctors in the county. He was the only graduate, but he had regular meetings from the beginning with those three men. He made better doctors out of the other two, and as a result of the continued activity in that society, they have now about thirty-eight members in the county—thirty-eight doctors in active practice. They have a big county society, and the people of that county are getting adequate and satisfactory medical service.

In Harlan County I recall very well that when I was first there in the hookworm campaign in 1911, there were three doctors in the county. They now have two Delegates in this House, with more than fifty members. The work of the society is splendid.

The reason it is important to have even in the smallest county an effective society is because the people of that county reflect their opinion of the entire medical profession by the doctors with whom they come in contact.

In Jefferson County we have the largest number of physicians together at any one place in the state. Suppose there are only four or five doctors in Trimble County or one of these adjoining counties. It is easy to have a meeting in those counties, in fact easier than anywhere else, with a fair attendance, because we can always get a machine or two full of our Louisville doctors who are glad to go to such meetings on account of the character of fried chicken and corn pone and things that are provided, the kind of ham with gravy attachments that we can't get in the city, and they will go out there and exchange their medical learning for the

lure of the country. Those meetings do us good who have the privilege of going and they help to make those men out there feel the brotherhood of the entire profession.

I really believe it would be a very great mistake to ever attempt to substitute for the county unit organization that has been so successful over the whole United States, a district organization. To use the District organization as an adjunct to successful county organization is an entirely different thing, but I don't believe a District organization could function successfully without the county organization. It was not successful in the First District, for example, where in the Southwestern Kentucky Medical Society we have one of the finest District Societies in the United States, until every county in the First District was thoroughly and effectively organized, the larger ones and the smaller ones alike.

In the same way, there was at one time, in Southern Kentucky, the Southern Kentucky Medical Society, which was one of those nice social organizations where we always enjoyed each other's society a great deal, but it was not a really effective organization until the county societies were organized in Southern Kentucky. Now Dr. Blackburn has one of the most effective organizations in the Third District that there is in the state.

That same thing is happening with the Kentucky Midland. It is beginning to happen, we are all glad to note, up in Dr. Bryson's District at Ashland. The successful District Society can only be built, though, on the foundation of successful county societies, and when the county society is destroyed, the bedrock of our whole principle of organization is destroyed.

With a Councilor with the energy and the personality and personal magnetism and the appeal that Dr. Hoffman so well carries to his counties, if he will just do that thing a little more often, if he will use that same zeal that I know it is difficult to give out emanations of so frequently because they are so powerful when they are emitted, I am perfectly satisfied that every doctor in the Fifth District will arise and call him blessed and continue to do it as those who come under his influence have done already.

C. G. HOFFMAN, Louisville: May I ask you another question? How do you suppose you are going to go about organizing counties where there are only two or three men available?

**THE SECRETARY:** That is just the question. I hope Dr. Gross will discuss that when it comes his turn to report for Perry



County Medical Society. That is being done in many counties in the state. They get together and take the JOURNAL and read an article and discuss that article with something that happens to be of contemporary interest to them. They take an article in the AMERICAN MEDICAL ASSOCIATION JOURNAL and read it. One man will bring in a case and the other two will help him discuss it.

In one of those county societies we have only one physician, and he has held all five of the offices and been a Delegate to this Association and has carried on very actively and effectively. He changes generally about twice during each year at that.

#### REPORT OF THE COUNCILOR OF THE SIXTH DISTRICT

R. C. McCHORD, Lebanon: I am very fortunate in having a District that does not require a great deal of attention. We have had a number of years about the same number of members, and the only difference has been the loss of three or four in the last three years by death and possibly one or two moving out of the District. We have had no increase in the number of members at all, because no one has moved into the District that I know of.

We have a profession that is always organized, and they live amicably and peacefully together. There is no friction. In fact, there is very little work for a Councilor to do among that kind of men. I think one of the principal duties of a Councilor is to prevent friction and to create a unity in the profession. I think in my District the profession is as near one as in any District.

Our membership doesn't do as much scientific work or have as many meetings as it should, but the members are united and they are all representative men in the District.

W. F. CARTWRIGHT, Columbia: I want to say that I represent Adair County in Dr. McChord's District. We don't say much about what we are doing over there, but we work on the job and we have pretty well obliterated typhoid fever in that county where it used to be a great curse. Diphtheria we don't countenance at all; we cure it right away. I could say a lot of things about the work we do up there. We just work and don't say anything much about it. The best sort of fellowship exists there. We are just one set of brothers and there isn't a cross anywhere.

#### REPORT OF THE COUNCILOR OF THE SEVENTH DISTRICT

V. G. KINNAIRD, Lancaster: I don't know that I have much to report from the Seventh District. We are just about holding our own. Last May we had a mighty good Tri-County Society meeting at Crab Orchard. This October we have a meeting in Lancaster of the Central Kentucky Medical Society just recently reorganized, and we extend invitations to all the members of the Association to be there. We will have a good meeting.

In our county we have seven physicians, all members of the society, one a member of the Madison County Society. He lives on the border.

We had a little trouble in our District at Somerset, but I believe that has been straightened out and I hope we don't have any more.

THE SECRETARY: I think the Association ought to have a report on that condition in Somerset, because it affects every doctor in the State. Last year you will recall the scare lines in the papers that announced that the federal narcotic inspector in Washington had given out an interview in which he said Kentucky was the dark spot in the enforcement of the Harrison law, that more doctors in Kentucky were violating the law than any other state, and there was less support for the law in this state than any other state in the Union.

I was both outraged and indignant. I don't think I was ever more indignant in my life than when I read that statement. I knew it was false from beginning to end and that there were less than a dozen doctors in the state that were responsible for that statement, and nearly half of them lived in Somerset. The situation there was deplorable. Fortunately the Federal Court indicted two of those doctors at one time and has indicted two since. Two of them pled guilty for violation of the law. They came before the State Board of Health last Friday on charges of grossly dishonorable conduct after having paid \$1,000 fine to the Federal Court, and the county judge came with them and stated there were a large number of morphine habitues in that county when the law first went into effect and he had ordered these doctors to be paid the ordinary meager sum that county doctors are paid to furnish these addicts with morphine, and under his instructions this had been done.

After the hearing, these two physicians, two excellent men, pled guilty to the charge that had been preferred against them and voluntarily surrendered their licenses. The Board, in view of the mitigating circumstances, suspended further action in the matter, permitting the doctors to retain their right to practice on probation, with the understanding that if at any time in the future they were guilty of any misuse of the privilege given to members of our profession using or prescribing narcotics, the revocation would be made permanent without further hearing.

There are two doctors in that county under indictment before the Federal Court at present. One doctor from Kenton County has been indicted and sent to the penitentiary. Two from Fayette County have been sent to the penitentiary and another fined. Another doctor from Louisville was fined \$5,000, and several are under indictment in this District at present.

It should be understood that we ought to say to our doctor friends in the various counties that they can't prescribe morphine for morphine habitues without violating the Harrison Narcotic Act, and if they violate it the record is so clear and so plain that they are absolutely certain to get caught, and if they are caught in any District of Kentucky they are going to be prosecuted in the Federal Court and in all probability in the future every single, solitary one that is guilty will be sent to the Federal penitentiary. The men who have not the moral courage to say no had better surrender their narcotic licenses or quit practicing medicine, because they will quit anyhow when they go to the penitentiary, under very uncomfortable circumstances. The social advantages are not so good, and they reflect on the entire profession and help to bring us all into disgrace.

The situation in Kentucky is cleaned up to a degree that it has not been in any other state. I am glad to say that the Assistant Secretary of the Treasury has written that Kentucky from having been alleged to be the dark spot in law enforcement is now one of the cleanest states in the Union, and that is due to the activity of the medical profession in the State. Every single one of these cases has been viewed through the activity that we have created, and I want to urge upon the profession that we continue to do that thing.

Another thing in the same connection that is going to bring us all into very serious conflict with the courts and is just as certain to come as we stand here is the thing that

was covered by the splendid report of the Committee on Medical Ethics last year at Crab Orchard, which was adopted un-  
animously by a rising vote after Dr. Scott had made his appeal. We are still guilty of writing prescriptions for whiskey to be used socially at our own entertainments, and some of our good members are still doing that. It is just as certain as we sit here that it is only a question of time until they are going to be hauled before the court, because that law is going to be enforced just like every other law is. We can't ask that the medical law be enforced and that the law against murder, burglary or robbery be enforced and then help nullify any other law on the statute books. We have got to make up our minds that we are going to enforce that law and support it as long as it is on the books. We ought to be saying to our doctor friends that that thing has got to stop, because unless it does stop it is going to bring some of our good members into serious conflict with the court and they are going to find themselves sent to the penitentiary, much to the regret of everybody who loves them. Nobody can flaunt the Constitution of the United States, whether he is a red or a bolshevik or one of our best citizens; he has no more right to nullify one line or one sentence of that great instrument than any other man has. If we can nullify the Eighteenth Amendment, some other man can nullify other articles of that Constitution, and it is our duty more than any other person's duty to enforce the law.

I think this Society did a great thing as far as the record goes when it protested at the time that the amendment was before Congress against the substitution of a low-grade doctor for the saloon, but I think it is up to us, now that Congress failed to heed our protest and has saddled us with the responsibility for dispensing whiskey, to see that our ranks are clean and that we keep our own doctors from violating the law and that we ourselves who are leaders in the profession lead in its enforcement, because we better than any one else can do that.

J. G. CARPENTER, Stanford: I have a patient who has had her gall bladder removed. She has had numerous calculi. She also has disease of the pancreas. Several members of her family have died from carcinoma. Morphin is the only thing that eases her. The patient recently has been turned over to me from another doctor, and he had the habit of writing on his prescription for morphin "Disease of the pancreas, incurable." Am I on the right line?



**THE SECRETARY:** Certainly. There is no question but that any doctor has the right to administer morphin when morphin is indicated. Doctors have been put to inconvenience sometimes by agents that have no judgment or sense. When they are paying them \$900 or \$1,000 or \$1500 a year they can't get very high grade ones every time. They worry the doctors sometimes unnecessarily because of alleged violations. There is no question but that under the law whenever morphin is indicated the doctor has a right to use it in the quantity necessary, and if the patient has an incurable painful disease he has a right to say it is an incurable painful disease, but there is no question at the same time that he has not a right to say it is an incurable painful disease when it is not.

The courts have held that the administration of morphin for asthma, for example, except when it is administered by the doctor during the attack, is not a treatment for asthma at all, and if the patient becomes a morphin habitue who has asthma, a prescription for morphin can't be given to them. That makes the distinction where a patient has a cancer or other painful incurable disease and can be given morphin. A patient who has a painful disease that ought to be operated on, such as gall bladder disease, can't be given morphin habitually for that because that does not cure the disease, it is not a treatment for the disease; they can be given the hypodermic during the attack, but not habitually. It is that distinction that we must all recognize must be made.

A. H. BARKLEY, Lexington: The county judge had no authority in that case, it seems to me.

**THE SECRETARY:** He was the one who should have been fined himself because he had no right under any circumstances to instruct anybody to give morphin. He was violating the Harrison Narcotic Law himself, but as far as these doctors were concerned, we held it up in view of the fact that the cases they prescribed for were pauper cases and they had not gotten any money consideration out of it, and we believed we could extend leniency to these men and get good results by doing it. It is not the purpose of the Board to extend leniency to any man who is guilty of a moral violation of the law.

#### REPORT OF COUNCILOR OF THE EIGHTH DISTRICT

F. A. STINE, Newport: I beg to submit my report of the Eighth District for the year

1924. The total membership of 1924 as compared to that of 1923 is as follows:

	1923	1924
Bourbon .....	19	17
Bracken .....	7	8
Campbell-Kenton ....	97	104
Fleming .....	15	14
Grant .....	6	11
Harrison .....	18	18
Jessamine .....	11	10
Mason .....	16	14
Nicholas .....	11	10
Pendleton .....	10	9
Robertson .....	2	2
Scott .....	11	16
Woodford .....	4	2
	<hr/> 227	<hr/> 235

You will notice that in seven counties there is a loss of ten members and a gain of eighteen members in four county societies, giving a net gain of eight members in this District. The loss of membership in several of the societies was due to death, but the majority was due to non-payment of dues.

I regret to report that a large number of the societies are inactive, and something should be done to get the members interested in society work.

I am glad to state that those societies which are active are doing good work.

I would suggest that the non-members list in the different counties be revised, for I find in the two counties that comprise the society of which I am a member, they are charged with having 34 non-members, when in fact there are thirteen of that number who are out of practice and some following other lines of business. Two have moved out of the county or state, one is practicing in Cincinnati, Ohio, and belongs to the Medical Society there, and two are ineligible, leaving in fact only sixteen non-members that are eligible for membership.

I have not had the opportunity in the short time I have been Councilor to visit any of the societies outside of my own, but I have carried on a correspondence with all of them and have tried to keep in close touch with their condition.

It is my earnest desire to visit next year those societies at least which are inactive and see if it is not possible to awaken interest and persuade them to again become active.

**PRESIDENT BOYD:** Ninth District. Dr. A. J. Bryson, of Ashland.

**THE SECRETARY:** I would like to say that Dr. Bryson is the newest Councilor we have and has done one of the most effective

pieces of work ever done by any man who has been on the Council.

#### REPORT OF THE COUNCILOR OF THE NINTH DISTRICT

A. J. BRYSON, Ashland: Dr. McCormack has already said that I am not responsible for the results wholly in my District this year since I became a Councilor some time in the early summer. I have not visited all the counties in my District this year. There are several I have not been in. A number of the societies in those various counties have not been functioning much. In our own the activities have been splendid this year; it is the best society work that I think I have ever known.

Some of the counties are like those mentioned by Dr. Hoffman, with only some two or three men practicing in those counties. In two counties particularly, Martin and Elliott, there are three practicing physicians probably in each one. I am somewhat pessimistic as to the keeping up of society activities in those counties under conditions as they are now. The roads are bad. Good roads will mean more to the men practicing medicine in the Ninth District than any other section in the State, and as good roads are now coming I believe we will have and can have better society activities. About all we can hope for in those counties with only two or three or four men is to keep them connected with the state.

The membership at the present time is about like last year. I do not recall the number exactly. I believe next year we are going to have the highest membership in that District that we ever have had, not because I am the Councilor but because I am going into those counties and see if we can't get those men to become members of their local societies as well as the state society.

I enjoy what little Councilor activities I have had. I am merely a novice at it now.

PRESIDENT BOYD: The Tenth District Councilor, Dr. Estill, is not here at present.

We will now hear the reports of the Delegates by Counties.

#### ADAIR COUNTY

W. F. CARTWRIGHT, Columbia: I have very little to say except that we are all of one accord and on the job doing our duty. We have no friction of any kind. You hear but little from us, but we are doing our duty.

#### BOYD COUNTY

W. O. EATON, Ashland: Boyd County is perhaps in better condition this year than it has been in its history so far as the medical society is concerned. I think there is one doctor perhaps in the County that is eligible that is outside the fold. We have something like forty members, we have regular meetings with regular programs, and everything is in good shape with everybody in good humor and working.

A. J. BRYSON, Ashland: I would like to tell you that Dr. Eaton is the present President of the Boyd County Society.

#### BOURBON COUNTY

W. C. USSERY, Paris: For the first time in all these years I have to report that Bourbon County took a vacation this past summer. Heretofore our vacations were spent in eating ice cream and strawberry shortcake on the side. This summer we stopped all sorts of activities, but we are going to meet again on Thursday of next week and commence our winter work. The society is in good shape, although it has been sleeping this summer. We are active and are trying to do the things that should be done. We have been particularly interested in the baby clinic which has been held this summer. We have had possibly four or five of them, with the assistance of people from the State Board of Health office, in addition to the nurses, and so forth, and we feel that there has been a great foundation laid this summer for a great work which will grow in the future from that foundation chiefly in regard to children up to three, four and five years of age. The mothers are learning and have learned that it is better to take their babies to a doctor and have them examined when they are well to keep them from becoming ill. That has been my experience in at least a dozen cases with a dozen mothers and babies this summer, and the work was instigated purely and alone by these excellent, wonderful baby clinics which we held during the summer under the auspices of the County Medical Society.

#### DAVIESS COUNTY

EDWARD BARR, Owensboro: I wish to report that our society is in good, active condition. We have four meetings a year; we have met every time the third Tuesday in March, June, September and December. We have our membership the same as it has been through the past three years, losing none except those who have died.

In conformity with a resolution appointed at our last meeting at Crab Orchard, we ap-



pointed a committee to confer with our legislators with regard to medical legislation, and our legislators are glad to have that conference with the medical men of Daviess County and to help the medical profession.

We have a special health department in our county. We have a local health department of which we are all very proud and which does a great work for Daviess County and which our statistics will show has decreased our typhoid fever and such kindred diseases quite a little per cent since it has been in operation.

#### FAYETTE COUNTY

A. H. BARKLEY, Lexington: Fayette County is in very good condition. We have a meeting every first Tuesday after the second Monday in every month. I don't think we have failed to have a meeting. I think I can say without much fear of contradiction that every man in Fayette County is a member of the Fayette County Medical Society. I don't know of a man in Lexington who is eligible to membership who is not in the society.

One thing that I am particularly proud of is the absence of constant criticism of one doctor to another. Those of us who look back twenty-five or thirty years remember the conditions and can see the material change between then and now. We are very grateful and very proud indeed to report to this body the entire absence of bad feeling. I don't know of a more harmonious society anywhere than Fayette County.

THE SECRETARY: From fairly frequent opportunities of attending those meetings I believe that there is not a society in the United States that has a better program or where better work is being done, but they unfortunately never have gotten the idea that they owe a debt to the State of Kentucky in making reports to the JOURNAL of those proceedings so every doctor who reads the JOURNAL can have the benefit of that splendid work. If Dr. Barkley, with his remarkable skill in organization and stimulation of activities, would make himself responsible for seeing that such a report comes from their secretary to the JOURNAL every month, I am satisfied every doctor in Kentucky would eventually want to assist in erecting a monument to him for the additional education they would get from those proceedings. It really is the best medical society proceedings that I have known anywhere. The only other one that can compare is the Campbell-Kenton County. They make the best reports I ever saw. They discuss their papers better than

any others. The things that are most progressive in medicine are reported there. If they were published in the JOURNAL they would be absolutely invaluable to every practitioner in the State of Kentucky.

A. H. BARKLEY, Lexington: I want to say that three years ago I suggested that if the secretary couldn't get up the discussions and send them to the JOURNAL we ought to have a man capable of taking down those discussions pertinent to that particular meeting, and all meetings, for that matter, and report them to the JOURNAL. There are a lot of cases that come up and a lot of papers and discussions presented that not only affect Fayette County but other counties in the state at large. Nothing was ever done about that at the time. I hope you will jack up some of our good friends. They are all good fellows but they should wake up.

THE SECRETARY: Dr. Barkley is the man chiefly responsible for the condition. If he gets behind them we will get the reports.

#### GRAVES COUNTY

GEORGE T. FULLER, Mayfield: The condition of the profession in Graves County is about as good as could be wished for; there is no bickering, no backbiting, no prejudice existing there.

We have a meeting twice a year. It is a called meeting; it is not held at a regular, stated time. The president, through the secretary, calls the meetings, and we usually have some splendid papers and some good discussions of those papers.

Possibly every doctor in the county, with the exception of two, that is eligible for membership is a member of the county society. We are not increasing any in membership; in fact, we are decreasing from death. There are no young doctors graduating and coming in, or but few, at least. Perhaps we have had two in the last four years, but we have had decidedly more deaths than we have had additions from the source of graduation. Very few young men in the county are studying medicine or contemplating the study of medicine, and the rural districts of our country are really suffering for want of medical assistance.

We have a large county. Graves is possibly forty miles one way and thirty another, practically square, which gives us a large territory. I believe we have in the county something like thirty-eight or forty physicians, counting the decrepits and those that are down and out.

## CHRISTIAN COUNTY

R. L. WOODARD, Hopkinsville: Christian County has had a meeting every month this year—at least the president has been there. There has been a crowd at nearly every meeting. We have adopted the plan of having a dinner, and we always have a good crowd when we have a dinner. We have got some members in the society that agree every once in a while to pay for a dinner, and we always have a good crowd and a good meeting then.

Recently we had the Third District Medical Society meet with us, entertained by Dr. Durham. We had about 100 doctors present and had a fine meeting. Last month we entertained the Caldwell County Society, and we had another good meeting. That is another good way to get a crowd—give them a dinner.

**THE SECRETARY:** One of the best reports ever made to the Society Dr. Ussery made several years ago when he told how they got into the Society men out in the country who would not join and become active. They went out and had dinner with them and notified them they were going to come back and have dinner with them every time until they came to the meetings. Those four men are very zealous members now, and their wives see that they go.

## HARRISON COUNTY

W. B. MOORE, Cynthiana: Our society has neither gained nor lost. We have eighteen members; we only had eighteen last year. We have about twenty-three doctors in the county now. Twenty-five years ago we had thirty-five doctors. We had twenty-five members then. Two of the men are not in active practice. They have dropped out for some reason or other—not hard feeling, though. There are three that could hardly get in our society.

We have a meeting the first Monday night in every month. We have not missed a meeting in twenty-two years. We have somebody read a paper. Last year we had a meeting in Bracken County. About eleven of us went over to Bracken County, and then we invited them over with us, and only one came. I don't know what the trouble was.

We have had the State Board of Health there with a child clinic, and all the doctors have co-operated very encouragingly. We now have about 200 children coming once a month for examinations. We are getting quite a job on our hands with that, but we are getting along with it in fine shape. I think our average attendance is about twelve and a fraction for eighteen members, so I

guess we have a fair representation. We lost one member by death last year. We have the same number of members that we had last year.

## HART COUNTY

S. F. RICHARDSON, Munfordville: The county society is inactive. I don't know but that we ought to have Dr. Carpenter down there to arouse them. There has been some health work done through the health nurse, and the people of the county seem to appreciate very much the clinics. There has been a great deal of interest shown in that particular line of work.

## HOPKINS COUNTY

J. D. SORY, Madisonville: Hopkins County is in a very good condition. We have monthly meetings the first Thursday in each month. We have missed only one meeting this year. About every three months we have outside speakers come to us. We have had three speakers from Louisville this year.

In these special meetings that we have every three months, we always have a dinner at either the Elks' Club or the Masonic Temple or some place like that. We have about thirty-five or thirty-six doctors in our county, ten of whom are not members. Just why they are not members I do not know. I looked over their names just before I came, and they are all splendid doctors.

Our doctors are right with the State Board of Health, and I am safe in saying you can call on us at any time that we can do anything.

I want to say further that in these meetings of the Delegates if I am not always present it is not because of any lack of interest, but I have been a considerable sufferer from sciatica for the last three months, and I don't know that I can attend all these sessions.

**THE SECRETARY:** I think the Hopkins County Medical Society deserves especial commendation. I don't know of any society in the state that has really accomplished more. I think I am within the mark when I say that fifteen or twenty years ago, Madisonville was the dirtiest town that possibly was in existence. There were a lot of others that were just as dirty, but I don't think there were any worse ones. In the last few years Dr. Sory has been the mayor, quite frequently the medical men have been members of the City Council and the school Board; they have built up an almost model school system; they have one of the best paved cities in the state; they are building an extensive sewage system; it has been made a modern town in every way through the



leadership of the Hopkins County Medical Society. I don't know of any place that deserves more commendation for actual practical work than Hopkins County and Madisonville. It is one of the beautiful towns of the state now and is improving at a rate that makes everybody proud of it that goes down there. We are glad it is in Kentucky, and we used to be ashamed to say there was any such place as that in the State.

#### LINCOLN COUNTY

J. G. CARPENTER, Stanford: This is the report of the Delegate, Dr. M. M. Phillips:

"The Lincoln County Medical Society has been holding regular meetings the past year with good attendance. The membership includes every doctor in the county that is actively engaged in practice. The doctors are all working in harmony."

I am the alternate from Lincoln County. Our Medical Society meets every two months—six meetings a year. We have about eighteen members, all paid up. We are improving out there all the time. The local Board of Health is working, and we are using all kinds of vaccines with good results and the doctors are getting along harmoniously; there is no biting or scratching or pulling of hair among them.

We have now on foot an effort to organize a Lincoln County Memorial Hospital, dedicated to our dead soldier boys, forty or more in number, who passed away in the war. We have a Memorial Hospital Association of 2,000 members. We have raised several thousand dollars and hope to have a hospital dedicated to these dead soldiers instead of building a useless monument to them. We will appropriate this money and have their names printed on tablets inside the hospital. The Commercial Club, the Civic League, and all the different church societies and secret orders are going hand in hand in this work. We are now putting on a big drive, and I think we will meet overwhelming success ultimately. I hope other counties will follow in our footsteps. We said there was nothing too good for the soldier boys when the War was going on, and there is nothing too good to honor their member since they have gone.

#### HICKMAN COUNTY

CHARLES HUNT, Clinton: Hickman County has eleven doctors, nine of whom are members of the County Society; two are non-members.

We have held four meetings this year.

Our Councilor, Dr. V. A. Stille, was with us at our July meeting and read us a very interesting as well as instructive paper, after which we had a nice dinner of squirrels. After dinner was over we had a very profitable business meeting.

Hickman County is an agricultural county bounded on the north by Graves and Carlisle Counties, on the east by Graves, on the south by Fulton, and on the west by Carlisle County and the Mississippi River.

Clinton, with a population of a thousand, is the largest town and the county seat. There are two railroads crossing the county and the right of way already bought for another one. We have seven thousand acres cultivated in cotton this year, one cotton gin working and another under construction.

We have six high schools in the county, one association tobacco warehouse, two canning factories, two drainage ditches across the county and another one under construction. We are amply supplied with churches and county roads. We have no hard roads and only have about five miles of pike road. The Burlington highway passes through the county from west to east.

#### MCCRACKEN COUNTY

H. P. SIGHTS, Paducah: It indeed gives me pleasure, gentlemen, to report the condition of the Medical Society and the medical men of McCracken County. Our Society there this year has had a better attendance than we have had for the last five years. We have better papers. While we had a two months' vacation during the time, it was a matter of choice with the physicians, and we have responded in this Society to every demand or request from the Society, assisting in any of the public health work in the state, etc.

The condition of this Society is such that every member that is really deserving of being a member is a member. This is largely due to the most excellent work of the secretary. He is one of the best secretaries I think we ever have had in our Society, and it is largely due to his activity, together with the co-operation of our medical men. The medical men especially of Paducah have co-operated with the public health work in every way, and the public health organization there I think is as good as any in the state. We have an all-time health officer who is doing the venereal work perfectly, and every physician is responding to requests for the report of cases.

We have in our city a great many organizations that require the physicians' activity,

and it is a pleasure to say that we have not called on a single physician who has not responded and given us his time in those clinics. Of course, McCracken County, like every other medical organization, has made some mistakes in its membership, but I want to say that McCracken County has a great many more good things, and there is so much good that the medical men are doing that I think we ought not to even consider the little errors that are made.

It is my opinion that our Society has covered the field in membership. We have some men that are practicing medicine there who we would wish belonged to the Society if they were the right sort of men, but, of course, we want men that are clean professionally.

I would like to say lots of things about the Paducah physicians because I think we have a good class of physicians there.

#### MADISON COUNTY

H. B. SANDLIN, Richmond: We are in a retrogressive state this year. I am here in the stead of Dr. Smoot, homeopath. He was our ex-president of the Society and was entitled to come, but he couldn't come, or at least he didn't come, and asked me to come and take his place.

We have not been doing very much this summer. We usually have a vacation every summer. Our Society has not met regularly. In the spring we tried social dinners, etc. That soon wore out, so we really have not been meeting, but our Society is not dead by any means. We are all quite interested in the work. We are just sleeping for the time being.

Our county health work has gone along splendidly under the whole county work of Anna Quinn and myself. I don't think anybody could have any better work than we have had. She has done a splendid work, and the doctors have co-operated effectively when they have been called upon. Our county health work has been really the best work of the medical organization in the county this year. I hope by this time next year we will be more wide awake. We have had these periods; we are not discouraged by it. We will do better next time.

#### MARSHALL COUNTY

V. A. STILLEY, Benton: Dr. Washburn was the delegate from the County, but he sent in his report to me. Every single physician in Marshall County is a member of the County Medical Society. We have a splendid organization. The nineteen physicians in the

County are members, and that is pretty good for a rural county. We have a good program. A short time ago we succeeded in getting two men down to hold a tuberculosis clinic. I was especially interested in getting the county judge over there to show the amount of work the State Board of Health could do in dollars and cents. Dr. Loek showed him just what it would cost the County in dollars and cents if they had to pay for these examinations. We made a friend out of the county judge. He was already our friend, but he became a better friend. The Marshall County Medical Society is doing good work.

#### PERRY COUNTY

A. M. GROSS, Hazard: We believe we have got about as active a medical society as any one in our section of the State. We have grown from two doctors in 1912 to forty or forty-one now. I believe thirty-eight of that number belong to our county society. We have regular monthly meetings, and the luncheon method has proved a wonderful success with us getting doctors to attend. We have about sixty per cent at every meeting. Over half of our doctors are out in the county in the coal fields with no chance to get in or we would have a better attendance than sixty per cent. Our public improvement has advanced as much as in any county in the State in the past eighteen months. We have a first class water system, the sewerage system is being improved, the street systems are being improved.

We have practically no quack doctors in the county. There is one fellow, a one-legged man, who is the only one I know of in the county.

About a year or two ago when they had the organization of the mid-wives, I believe that stimulated the attendance of our doctors more than anything else. The doctors seemed to wake up to the situation, and we have been doing much better ever since.

#### WHITLEY COUNTY

J. F. WILDER, Corbin: The county is in pretty good shape. However, we don't have as many in the Society as we ought to have. I think we lack about one having as many this year as we had last year. We have about thirty or thirty-five doctors in the county. We meet once or more times during the year.

We have had one clinic this year—nose and throat and tuberculosis.

We are not being very energetic about trying to get those on the outside. We don't



know whether they have once been members and have dropped out or whether they never have been members. However, we have about twenty-six in number.

We have meetings every two weeks in the local medical society. We have a paper and good discussion.

V. E. SIMPSON, Louisville: Isn't there some way of obviating this lost time? It seems to me if we could get a written report from the secretary, if the State Association wants a report from each county independent of the Councilor's report of the District, which I think is sufficient, it would conserve time.

THE SECRETARY: That matter has been discussed, of course it is an important matter and one for the society to determine. That has been taken up and discussed at the meeting of the State Secretaries with the American Medical Association at each of the annual meetings. The reason it has been included in the program of practically every state society meeting is because the delegates present who are zealous and actively attending to work will very frequently get suggestions from some other county, and while some of those men are sufficiently zealous to read all the reports, a great many men hear things better than they read them, and the experience meeting has been found to be the most satisfactory method of making reports.

Then there is another feature of it. The county society elects a man as a delegate to the State Society. He comes here and makes his report. That report is included in the proceedings of the Society and goes back to the men who elected him and they feel he has done something as their delegate. They have a right to that feeling. It is a curious thing that that is true, because a great many men who come don't do anything; they attend some other meeting; they are away from the meeting here and they don't realize their responsibility to the society that elected them, and the society recognizes that.

During the course of this meeting I take it that we will have reports from probably 100 counties during the meeting. Other members will come in and file their reports in writing. Several have already done so that have not yet appeared, and a great many men from time to time will make their reports. Some of us will get suggestions from their reports. I think Dr. Ussery's report made four years ago and Dr. Eaton's made two years ago helped at least a dozen county societies that were moribund to become active. If nothing else has been accomplished

during all these years from any reports except those two, I believe they have been worth while.

I think when you look back over the old minutes (I read them quite frequently) and see the reports that were made ten, fifteen and twenty years ago compared with those now and see the difference between the problems that are being met with, the difference between the difficulties, it gives a picture of the medical progress in the State.

After all, it is a matter that is entirely within the control of the House of Delegates, and it is a matter for the House of Delegates to determine as to whether the reports are of value or not. We simply put them on the program because it has been determined by those in authority in building up the organization in the American Medical Association that they are essential to the continuance of the organization. They are required by practically every lodge and order that meets. They are required in the American Medical Association, and I doubt very much if we could omit them without impairing the efficacy of the meeting.

That is a matter for the House to determine, of course.

PRESIDENT BOYD: Discussion on the Councilors' reports is now in order.

J. G. CARPENTER, Stanford: To prove all things and to hold fast to that which is good is each man's duty and is a self-evident proposition and can be done. District societies keep the state medical body moving. Plato said the first thing a man should know is to know himself. I say the second thing for a man to know is to know the other fellow. We will have a lot more success in organizing medical societies and keeping them organized if the doctors will make it their business to know each other. They are so full of envy and jealousy and selfishness and so full of the devil's spirit that they don't have time to know the other fellow.

Solomon says that a man who would have friends must be friendly. The Councilors should be friendly; the members should be friendly.

We had about fifteen counties in our district and they had four men trying to organize it for four years. In less than three months I had each county organized with a good membership, collected their dues and sent them in to the Kentucky State Medical Association. Every now and then some fellow would break out and become roguish; you couldn't build a barbedwire fence high enough to keep him from going over. I would go back as the presiding elder of this

conference and point out his sins to him and threaten to baptize him by the old-fashioned method of immersion in the name of the Father and the Son and the Holy Spirit, and he would get scared and come back.

I would write to the various doctors that I was coming at a certain time to organize a medical society. I would publish it in the papers. I also added in my private letters, "Will abide with you until the medical society is organized. I am not going to pay any hotel bills. It is going to be a Methodist love feast, so get in plenty of grub, I am a great eater." I got acquainted with the doctors' wives and their children, and I found that often they had more sense than the doctors.

I told them the wonderful things they would achieve, how their reputations would grow, how much more respect people would have for them, how much better practice they would have, how much more money they would have, and they went to work. I had no trouble in organizing them and holding them.

When Dr. Joshua Wesley took my place, he came up one day and spent the day with me. He said, "Dr. Carpenter, my heart is broken. As the Councilor of this District I can't move a wheel." I told him what heart-aches and hardships I had had, and I threw out the life-line across the dark waves to him, I took out the life-boat, and, as the saying is, I "fetched" him in; I used the glue on him that made him stick.

I have found that if you can get doctors to eat together, soon you can get them to sleep together and visit each other. They find out what fine fellows the other doctors are, and the faults they supposed each other had are all imaginary. That is the way to go about these things—in a plain, business-like, common sense way.

Shortly after I was President of the Kentucky State Medical Society, they sent me down here to Cadiz. I made my announcement in the paper. The grand jury was in session, and the foreman of the grand jury and two other members came to the hotel hunting me. I was in there having a good old fried chicken dinner, corn cakes and cabbage, when they came in and said, "Are you the man that is going to speak at the courthouse?"

I said, "Yes."

"Well, we advise you not to speak. It may cost you your life if you do. Everything is against the State Board of Health."

But I said I was going to speak. I was introduced by the circuit judge. He said to me, "I am not responsible for these people

and it may cost you your life if you make this speech."

I said, "All I want is an introduction." The courthouse was full of people. I said, "I did not come here to be bulldozed or bluffed. My ancestors were Indian fighters and are still on the job," and I spoke my piece. I said, "I am here to the glory of God. I came here to speak for the welfare and the happiness of the grandfathers and the grandmothers, the mothers and fathers, the sons and daughters, the prattling babe and for the unborn babe." I told them how they could live to be a hundred and twenty-five or fifty if they would take my advice. I gave them a talk on agriculture and horticulture and money-making, all included in that lecture, and when I got through, the circuit judge arose and said the scales had fallen from his eyes and that he was converted, and he made a motion that the audience arise and give me three loud cheers for coming down there and making that speech.

That is the way to do those things. I got more inspiration riding through that county than you can imagine. I saw the beautiful woodlands, the forests and the streams. I went down there and told them the good things about their own country.

We must be in earnest. I find that the trouble today with doctors is that they are divided into cliques and clans; they are not making a forward march all together. They are not doing the laboratory work in their offices that they should do; they are not trying to have the equipment, and whenever they get stumped they are afraid to call in a colleague. They send the patient off to the specialist and loss reputation and money. They stay back home and say, "Oh miserable man! Who will deliver me from this bond of affliction?"

When I hear of a man who has graduated in medicine, I feel like saying what I did to the circuit judge, "You have been tried by a jury of your peers; you have had a fair and impartial trial; you are doomed to practice medicine the rest of your life. May God have mercy upon your poor soul and may you get into the right and heavenly way in which we all should go."

PRESIDENT BOYD: The Councilor's report, which I read very carefully, is so complete in every detail, showing the activity of the profession for the past year, that it leaves practically nothing to be said. I fully endorse and concur in everything that has been taken up in this report. I am sure that the reading of that report is better than any-



thing I could have said to you was a report from the President's chair, because it embodies all of the activities of the Society very concisely and very thoroughly and fully. I think the report is very able, and I want personally to thank the members of the Council for this excellent report.

**THE SECRETARY:** Governor Beckham is here, and I would like to suggest that at this time, for his convenience, we hear from the General Counsel of the Society.

**HON. J. C. W. BECKHAM:** Mr. President, Ladies and Gentlemen, Members of the House of Delegates: It is becoming an annual affair with me to be present at these meetings of the Kentucky State Medical Association, and I doubt if there is any one not a member of your honored profession who takes more interest in these meetings than I do. I believe I have on other occasions referred to my association with the medical profession of this State from the time I entered public life about thirty years ago, and I have watched with increasing interest the development and progress of that profession. As I have said before, next to the profession of the ministry, there is no other body in our land that does more generous, charitable work for the public welfare than do the members of the medical profession. Your labors are constantly directed toward results that seem to reduce the necessity of your labors, to remove the causes of disease and pestilence so that the time might come when there would seem to be no need for doctors at all. However, I do not believe that that condition ever will arise. The same thing has been going on to a considerable extent in the legal profession. Lawyers and legislatures and Congress have been framing laws for years that would tend to reduce the need of litigation and to simplify the practice of the profession, but somehow or other they have managed to keep going regardless of that apparent decrease in the need of their services.

The profession in Kentucky, I believe, has labored under many great disadvantages, and yet it has had some particularly good fortune. I have often said that I believed the medical profession of Kentucky and the people of Kentucky owed more to the work of the late Dr. J. N. McCormack than to any other man of his generation. (Applause) I had occasion to become associated with him when I first started in public service thirty years ago, and I had the best opportunity to observe the wonderful work that he did, the zeal that he showed and the results that he accomplished by his indefatigable, intelligent and ceaseless devotion, not alone to the

profession of medicine but to the public health. I feel a very deep interest in your work, regardless of the professional associations that I have had with you.

You have had a great deal to contend with; you have had in almost every session of the legislature discordant and contentious elements that would seek to retard or overthrow the work and authority of your State Board of Health. That effort was about as intense and as vicious in the last legislature as it ever was. The usually well advertised and fruitless investigations were set afoot, and every effort was made by means that I shall not here discuss to discredit and if possible destroy the organization of your State Board of Health. Tremendous influences and powers were put back of those elements in your legislature, and it is a credit to your State Board and to the profession in the state that notwithstanding these powerful influences against you, your strength with the people was so great that that fight amounted to little or nothing during the session. Its only result was to embarrass and disturb the splendid organization constituting the State Board of Health.

I have had opportunities to observe the operation of that organization, and I can cordially testify to the splendid spirit of service and of intelligent effort that prevades the whole organization from the top to the bottom. All of the members in that organization are deeply and earnestly interested in its work, and it has achieved a success that is remarkable in consideration of the small amount of financial support and other elements of support lacking in its work. It must succeed by the co-operation of the medical profession throughout the State and by an intelligent public sentiment to back it.

You have observed that there is nothing so easy to deceive the people about as about the condition of their health and about remedies. You have heard the quack on the spring wagon with his banjoist on the street tell such a marvelous tale about the wonderful curative value of his medicine that even intelligent people are sometimes deceived and led to believe that this disease they have, or this imaginary disease, can be cured that way. That is a strange condition, and yet it exists, and it is one with which the profession and your State Board of Health has had to contend in all of these years. Most of the fights made against the organization have come from sources of that kind, from quacks and impostors and charlatans who have been exposed or prosecuted by the State

Board of Health and the medical profession in this state.

I see nothing more needed now than to instruct and educate the people upon the value of this service. They should be taught better to understand that your medical associations and your State Board of Health are not organized primarily for the benefit of the profession. Enemies of the profession would seek to create the impression, and very often do create the impression, that the doctors are organized for their own selfish purposes and that the State Board of Health is merely a powerful agency to perpetuate and protect that monopoly. That, of course, is not true. That is not the intent of the law that created the organization, and it is a great reflection upon the honor of the members of the profession in this state. However, that feeling existing in so many parts of the State has made it difficult for us to get com-laws against the law-breakers, and I want to call your attention to the fact that the State Board of Health and its Council are powerless to enforce any law of the state. Their power is merely advisory and can be used as an influence to aid the local officials out through the counties in our state.

I need not enter into a discussion of the structure of our government, but you know without my telling you that the fundamental theory upon which it is based, especially in our State, is the idea of local self-government, that the enforcement of laws and the preservation of the peace is dependent not upon some authority at Frankfort or Louisville or Washington so much as it is upon your own community and the law officials within that community or that county.

We have seen the example of that difficulty in dealing with the chiropractors. Let me say that many men in that profession have shown an excellent spirit in their desire to obey and comply with the law on that subject in the State, so much so that many of them have separated themselves from others of that profession and formed an organization and have shown the most earnest and hearty desire to co-operate with the State Board of Health in the work.

That law is an eminently fair and just statute. As you understand, it allows the chiropractic organization to send in a list of seven members of their profession, from which list three are selected as a board of examiners, and that board in co-operation with the State Board of Health examines all applicants for license to practice chiropractic upon the subjects that particularly deal

with that particular branch, and the State Board of Health shall examine the same applicants upon the three fundamental subjects of anatomy, physiology, and pathology.

Influence outside of our State, with evidently much money back of them, have undertaken to break the force of that law by advising the graduates of one of these institutions, especially these colleges, that they should come into Kentucky and pay no attention to the health laws or regulations of the State Board of Health or any medical organization, and defy the law. Many good men have been misled by that; they have been advised by counsel, in some instances, that the law was unconstitutional, and we have had in the last two or three years quite a good deal of difficulty in getting that law enforced. In some counties in the State we have found the local officials apathetic, indifferent, and unwilling to prosecute, and in some instances it has seemed that those officials were on the side of the law violators.

The State Board of Health and its legal counsel have, of course, been unable to accomplish anything where that condition exists, but I may say that in the majority of the counties where we have had prosecutions in these cases, we have found the local attorneys or officials ready and willing to do their best, and that spirit is increasing; they are beginning to see how plain and simple the proposition is, and how essential it is to prosecute these men, not simply as a matter of protection to the public and for the public health, but as a protection to our laws. No system of jurisprudence can be maintained if you are going to allow any set of men or any class in a community to openly and defiantly say, "I will not obey your law. It is unconstitutional. I am unwilling to obey it." They have been awakened to that situation.

The only two questions in this matter of prosecution are, is the man licensed to practice this profession, and has he been practicing it. If it is shown in trial that he is not licensed and that he has been practicing it in that community, then he is guilty and ought to be fined according to the law. There is no other evidence that is competent or permissible in a trial of that kind.

It has been a slow, difficult progress for us to impress upon these local officials the importance of this matter from a general as well as a particular standpoint in urging them to continue these prosecutions or to inaugurate them and carry them through, but the results are coming very rapidly. We



have found in the present year a great many more convictions, juries much more willing to convict than they were before, and then, too, the chiropractors who under advice of counsel and under the advice of that particular school which has backed up that element, have come to realize that they have been placed in a false position, that they are in reality standing as violators of the law in the community where they seek to make a living, and they have also come to realize that the law is as fair as any school of the healing art could ever ask and that the State Board of Health has been exceedingly fair and reasonable to them.

I am informed (I have known that some negotiations have been going on) that the negotiations are about concluded where those who have been outside of the law are ready to submit and go in and take examinations just as members or applicants in any other school of healing have to do. That will be a great triumph for the law. It will be a vindication of the policy of the State Board of Health in its constant efforts to bring this to a successful settlement.

I can realize that in many instances in the State where these chiropractors have been practicing in open violation of the law, they have caused wonder in the minds of the physicians and others that something was not done to them, that the State Board of Health or some power had not been able sooner to enforce the law against them, but as I explained at the beginning, it is a matter of local effort in the end, and we have at last reached a point where I think that question is settled and that we will have no further difficulty in it; only those will be permitted to practice who can pass the examinations prescribed by the law.

I can understand the differences that may exist in the matter of opinion about the merit or value of these new schools that come up. I remember reading in one of the old novels of many years ago a very interesting account of the controversy and difficulty among doctors of the allopathic and homeopathic school, and then we have seen these new schools come on, generally having some merit in them, and finally the regular school or the old school has broadened out far beyond its position of a generation ago, and instead of shutting itself off from any new light that might come in, they investigate and see what good there may be in these new ideas. I have often thought of what a great value it was to the American people, so little realized or appreciated by them, that we have the great American Medical Association and our state

medical association, not only to preserve the health and welfare of the people as far as they could in the light of knowledge already acquired, but that they stood as a protection for us in all these new theories and new ideas, so many of them false and valueless, that are constantly coming up. There is hardly a week that we do not read in our newspapers in the sensational columns of some new cure for this or that disease; it gets those who are afflicted with it or who imagine that they are afflicted with it excited and interested, and nothing comes of it, but the people have in these great medical associations the very best minds of the country directed upon these problems, just as upon the insulin treatment, and many others, and whenever it was demonstrated that there was merit in the discovery we would have the authority of that great organization and its subsidiaries to satisfy us.

You gentlemen and ladies who are in that profession have a great obligation and responsibility upon you. I know that you have to do, as I have said before, as much unselfish and as much unremunerative work as any other profession, and yet we must depend upon you to continue that work. The people will realize in time what a wonderful service has been brought to them and to the future generations in the past work of your State organization and in reducing the death rate in all of these pestilences and scourges that used to decimate our population whenever they struck a community, the reduction in typhoid fever, in tuberculosis, in diphtheria, in small-pox, and all of those dread diseases that less than a generation ago struck the community with fear and trembling whenever they appeared among us. The doctors of the State, the medical profession, working largely through your State Board of Health, have almost removed the fear and dread that they used to give us. I trust that the same generous and disinterested and charitable and public-spirited services of the doctors of our State will be continued in the future, that these benefits may grow and be increased, and that those who come after us may enjoy even a far better condition of health than those of us in this generation enjoy.

You have a great opportunity, and the people of Kentucky are depending to a very great extent upon the doctors of the State, a splendid body of men who render great service to the people and I believe will continue to render great service to this State. (Applause)

**PRESIDENT BOYD:** The Chairman of the Committee on Arrangements has some things to tell you.

**J. B. LUKINS, Louisville:** I believe that we have everything in hand for the arrangements for this meeting. We have several committees working that it is not necessary to name.

Dr. Lukins made announcements relative to the entertainments.

**PRESIDENT BOYD:** I presume without any further action the report of the Committees on Arrangements will be approved.

We will now hear from the Committee on Publicity, Dr. Sherrill, Chairman.

**J. GARLAND SHERRILL, Louisville:** Mr. Chairman and Gentlemen: Doctors are not allowed to advertise, but I think this meeting has been fairly well advertised. The Committee, consisting of Dr. Samuel P. Myers, Dr. John G. Clem, and myself, worked on this subject. The publicity has been accomplished largely due to the efforts of Dr. Clem and to him is due the credit for any publicity that the meeting has had. I think he has attempted to advertise it throughout the State and also give it some local advertisement through the local papers.

We have provided in the exhibit hall as a result of the work of the Jefferson County Medical Society and the Pathological Department of the University of Louisville, a pathologic or rather a scientific exhibit showing all types of pathological specimens and interesting photographs and so forth, which you can look over at your pleasure. I had hoped to have a very much better display, but some of the local members did not seem to grasp the idea. We will try to improve that as soon as it can be done.

**PRESIDENT BOYD:** We will now have the report of the Medico-Legal Committee, by J. J. Moren, the Chairman.

**J. J. MOREN, Louisville:** The following is submitted as the Sixteenth Annual Report of the Chairman of the Medico-Legal Committee.

In 1923 a total of 177 cases were reported. During the year of 1924, 20 new applications have been made to the Committee, making a total of 197 cases since 1908.

During the year, nineteen cases have been disposed of, eight cases dismissed or filed away by Court, (which is practically a trial because it is just about as expensive to prepare a case; you have to pay the attorneys' fees, etc.) five trials resulting in verdicts in favor of the doctor, two cases have been lost, one for \$1500 and the second

on the third trial resulted in a verdict of one cent against the doctor, three cases have been dropped by the plaintiffs, the suits not filed, and one case was compromised.

We still have on our files eighteen cases, but the majority of these, to my opinion, will prove only threats. Several will doubtless be tried, but none is especially dangerous.

There has been nothing unusual in the work during the past year. The type of cases has been the general run, with fractures predominating.

As Chairman of your Committee I have no complaint to make; all have co-operated to the fullest extent. I feel that the profession at large is awake to the liability of suits, and that the members are more cautious in their remarks about the work of others. Such complaints are not reported to this office with anything like the frequency that they were when this Committee was first organized.

Our expenses have been unusually heavy this year. It seems that lawyers are living higher than they used to, at least they are charging higher fees. Our fees in the last year have almost doubled those of previous years. They are rendering us bills now of three, four and five hundred dollars. One man even tried to go above that.

Two or three cases have been reported to the Committee this year that really should have been reported two or three years ago, but for some reason the information did not reach our General Counsel or the office of the Medico-Legal Committee until after the case was disposed of. The attorneys' fees and the courts costs in these cases were recommended for payment, as they were due the doctor. It was not the doctor's fault; it was an error through some of the offices that it did not reach the proper channel. We felt the doctor was entitled to the court costs and the attorneys' fees in that case just the same as any one else, and we recommended the payment of those claims. Some of these cases were overlooked during the war. Possibly part of that accounts for the increase in the cost of the Medico-Legal Committee during the year, but the principal thing has been that the attorneys have raised their fees.

I have carried this thing for sixteen years. I have other duties and responsibilities now that keep my attention away from this work. I would be very glad indeed if you would relieve me of the chairmanship of the Medico-Legal Committee.

**PRESIDENT BOYD:** I don't know what we will do with that request. The Doctor certainly has given good service.



A motion was made and seconded that Dr. Moren's resignation be accepted with regret.

---

SEPTEMBER 22. SECOND MEETING OF THE  
HOUSE OF DELEGATES.

The meeting was called to order at 8:15 p.m., by President Frank Boyd.

**PRESIDENT BOYD:** The first order of business is the report of the Committee on the JOURNAL.

**OSCAR ALLEN, McHenry:** I should like to ask for extension of time on our report.

**PRESIDENT BOYD:** The next is the report of the Committee on Legislation.

**V. A. STILLEY, Benton:** I guess you are all familiar with the legislative fight that we had this last winter, and I am very glad to say that we came out in pretty good shape. I say "we", I mean every word of that because I really believe if it had not been for the wonderful help we got from the different women's organizations of the State of Kentucky, I doubt if our position would have been as secure as it appears to be now. All we needed was to let them understand what we were trying to do for the general public, and every single one of them rallied to our relief.

If it is in order, I think that this Society ought to give a vote of thanks to the different women's organizations for the help they gave us last fall. I make such a motion. The motion was seconded.

**THE SECRETARY:** I am so glad Dr. Stilley made that motion, and I would like to include the names of the Women's Legislative Council, the League of Women Voters, the Kentucky Federation of Women's Clubs, the Kentucky Parent-Teachers' Association, the Women's Christian Temperance Union, and the Metropolitan Life Insurance Company, which is not exactly an organization of women, but they sent in about a million and a half letters. The motion was carried.

**THE SECRETARY:** There is one other suggestion I want to make at this time. In the report of our Legislative Committee, as one of the major activities of the profession in this State there is one that ought to be considered by the profession from time to time because there is still a considerable difference of opinion in the profession in most of the states in regard to it; there is the discussion as affecting the national situation and in the other states it is so foreign to conditions in Kentucky that I think it is particularly important for us to review the

situation now and then and think of our own good fortune in the matter.

The medical profession in Kentucky controls its public health activities. It is inconceivable that there can ever be a time when the State Board of Health is doing anything that has not the approval of the profession under our organic system of organization. When the Sheppard-Towner bill was first offered in Congress, I doubt if a more illy drawn legislative conception was ever produced. It was unworkable; it was headed by a hydra-headed commission; it gave almost dictatorial powers to a commission that could not have operated under any circumstances, and it immediately aroused an intense antagonism not only in our profession, which would brook no domination, but in all of the thoughtful students of governmental affairs, because it meant that a bureau in Washington would have control of the activities of the local agencies created under the law by necessity of it in every state that were called child welfare commissions. It had no public health ideals, no background; it had not been built up but was to be germinated like a mushroom growth and would have been destructive of our whole system of public health work and contrary to our whole system of government because it destroyed local initiative. I had the good fortune in the Conference of State Health officers to be appointed a member of the Conference Committee with the women's organizations that were behind the law, and at the first conference it was extremely interesting to find that these good women had in view the statistics in regard to maternal and baby and child hygiene in this country and in the other countries of the world, and the remedies that they sought to apply hadn't been considered: they were simply considering the holocaust.

When the matter was explained to them that the bill was unworkable in the shape in which it was formed, they were perfectly willing and ready to accept suggestions in regard to it. Unfortunately the attitude of the profession generally over the country was fixed in regard to the Sheppard-Towner bill by that original draft of it, and a great many of our members and a great many of the people and the papers have not yet found out what was actually passed but are still reading the old law that was originally drafted. The law as finally passed instead of giving to the Federal Commission a tremendous amount of money, gave to the Children's Bureau at Washington, which was an already existing bureau, \$50,000 a year for administrative purposes and the rest of

the million dollar fund was divided amongst the states in proportion to their population. It was provided that in each state there should be, if there were a State Board of Health and it had a Bureau of Child Hygiene, given to that State Bureau of Child Hygiene of the State Board of Health dollar for dollar with the state appropriation plus \$5,000 from the Federal fund which did not have to be matched; that that money should be expended in a program which originates in the state, and the Federal Bureau's function is simply to see that the money appropriated by the Federal Government is actually expended for a program which involves maternal and child hygiene.

In some states that involves milk inspection, because that is the major problem with which they are confronted in child hygiene; in some it involves sanitary engineering because in those states they need money for the sanitary engineering department in order to insure safe water supply in certain sections of their states; in others it involves school inspection in the first year because that is the first time they are able to get at the children; in others still it involves the developing of lying-in hospitals and of child welfare clinics and things of that sort where necessary methods of development are seen. But in each state the program is worked out by the state administration.

In Kentucky the program that has been worked out and put across so successfully and that has insured us (and that is my reason for making this statement at this particular time) the support of the women's organizations in the State has been the fact that we have gone with a sane, sensible, local program to each county and have there assisted them so far as the money went in solving the problem that confronted them and helping to spend the money locally to do the work. In that way we continued to merit the support of the women of the various organizations, and in no county has one single step been taken in that program until it has been approved by and controlled throughout by the local medical profession or the local medical society. There has not been a clinic held or an organization meeting held of any kind, there has not been an examination made anywhere except in the presence of the local physicians, and there never will be.

It is inconceivable that under our system of organization there ever could be such a thing. I make this statement not only because of its importance to the members of the House of Delegates but because it is important in the proceedings that it go out to

the profession of the State so they understand we are in no danger of being overwhelmed by bureaucracy, because a democracy can't be controlled by a bureaucracy as long as the democracy operates, and ours, thank God, is still operating.

We have not slapped the women's organizations in the face as they have done in a number of states by their opposition to this legislation, and they have stopped progress in the states like Illinois and Michigan in public health matters by making an organized fight of the profession against medical progress as shown in the care of mothers and babies. They have not intended to do it but that has been the result. They have stopped the progress of the profession and of the health organization, and I think it is very important for the members of the profession in Kentucky to realize that fact.

PRESIDENT BOYD: Is there any one to report on the Committee on Crippled Children?

THE SECRETARY: Dr. Sullivan is in Chicago attending the meeting of the State Associations of Crippled Children and will be back day after tomorrow.

PRESIDENT BOYD: Are there any reports of any counties that were not present this afternoon?

#### ALLEN COUNTY

A. O. MILLER, Scottsville: I am alternate for Allen County. I can report full membership. We have regular meetings every third Saturday. We have had a good year, and the Society is getting along fine. We have all the doctors in Allen County enrolled in the County Society except two, and we have regular meetings with good interest.

#### CAMPBELL-KENTON COUNTY

J. G. FURNISH, Covington: It is my pleasure now to report the presence of the delegates from Campbell-Kenton County. We have our usual Society and have increased slightly in membership. We have our usual interest and our usual good attendance. There is a lively interest and there is always a good number present. We are progressing; we are certainly as good as in the past, and I think we are rather advancing.

#### JEFFERSON COUNTY

E. R. PALMER, Louisville: Our Society is functioning in good order. We have something over 300 members. We meet twice a month and have good papers and good discussions and a great deal of interest.



I am not prepared to give any definite report as I am just an ordinary delegate.

**PRESIDENT BOYD:** None of the Committees supposed to report this evening is present. We shall have to take those up at the next session. Upon motion regularly made, seconded and carried, the meeting adjourned at eight-thirty p.m.

#### SEPTEMBER 23. THIRD MEETING OF THE HOUSE OF DELEGATES.

The meeting was called to order at eight-ten a.m., by President Frank Boyd.

**PRESIDENT BOYD:** We will hear the report of the Committee on Good Roads, by R. R. Elmore, of Louisville.

#### REPORT OF COMMITTEE ON GOOD ROADS

**R. R. ELMORE, Louisville:** No profession should take a greater interest in the development of a state highway system than the general practitioner of medicine, for selfish and unselfish reasons. Transportation is a problem which concerns his daily duty of rendering service to his unfortunate fellowman, and upon the safety, rapidity and comfort of this transportation depends the amount of service rendered and the time for study and relaxation. Then, again, every citizen owes an obligation to his state and community to aid in making it a better place in which to live. Few men have a better opportunity to exert a helpful influence in their community than the honest, conscientious and painstaking practitioner, who is entitled to and receives the confidence and respect of his fellow-citizens.

At the present time there is no division of opinion on the need of improved roads in Kentucky, but the best method of how to develop this system with justice and fairness to all is a problem of difficult solution.

Two general policies have been developed in other states:

1. The plan of devoting all the road building funds to the construction of a system of hard-surfaced roads, concentrating construction upon a few statewide roads connecting with roads of other states and affording communication with the larger cities of the state and pushing them to a rapid completion; taking them over by the state for maintenance and proceeding to the construction of other roads in like manner. This is a method being followed by some of the wealthy states, such as Illinois and Pennsylvania, and is rapidly bringing results. This plan requires the selection of a small

definite mileage and then sticking to it until completed.

2. The policy of taking over the entire state primary system of roads of whatever character and maintaining the mileage to the best possible advantage, a portion of the funds going to high type construction, the maintenance being of such a character as to add slowly to the so-called permanent construction of the road, culverts, bridges, some grades and even surfacing being added year by year, so that when a high type surface is put on the preliminary work is utilized. This method is being followed by the more conservative states such as Indiana and Ohio, also by the less wealthy states as Virginia, and when operating over a term of years brings good results and affords early services to a large percentage of the state population.

This system has brought remarkable results to the roads in Jefferson County, and consists of liberal provision for maintenance of efficient character, the balance of the road funds going to high type construction.

A statement of a series of facts may clear the way for certain conclusions which should find favor with a majority of our citizens:

1. The greater portion of funds for road purposes is derived from the owners and users of motor vehicles.

2. The cost of road building at the present time is extravagantly high, and unless history fails to repeat, this excessive cost will tend to increase over a term of years.

3. The greatest demand and the largest volume of traffic is between the cities of a state and adjacent states.

4. It is manifestly impossible to build a modern highway to every doorway in the state.

5. Roads connecting large centers of population and carrying the largest volume of traffic and heaviest loaded vehicles require a more durable construction than the roads which serve as feeders to this trunk line road.

6. High grade, efficient maintenance is an absolute necessity for the preservation of highways of whatever type.

7. A continuous highway system affords the greatest service to a state. One highway of 120 miles across the State of Kentucky would be of far greater value to the State as a whole than to break this highway into 120 pieces and place one mile in each county. The former will perform a useful service to a large percentage of the citizens of Kentucky and other states; the latter performs very little service to citizens of any county or state.

8. The primary system of roads in Kentucky has been increased by legislative enactments from 4200 miles in 1920 to 8,000 miles, in round numbers, in 1924. Estimating 2,000 having been provided for, leaving 6,000 to be constructed, providing the legislature does not add to the above every two years, at \$30,000 per mile the cost would be \$180,000,000, and at \$40,000 per mile, which has been about the average of recent years including culverts, bridges and difficult terrain, the cost amounts to the staggering sum of \$240,000,000.

9. As long as the present system of locomotion is in vogue, the highway problem will always be with us.

10. The history of all state highway departments is replete with grave economic errors and mistakes in specifications.

11. No state highway system can reach maturity other than by an orderly course of procedure carried out through a term of years.

12. Building a highway system is similar to railroad systems—build the trunk line first, the feeders later.

These evident facts plainly suggest a common-sense program which does not require supermen to conceive or unbelievable sums of money to inaugurate. The first essential is to concentrate on a reasonable mileage of something like 4,000 miles, about 2,000 of which is already provided for. The second essential is the vision and determination to confine construction to this mileage until completed.

That the completion of the above mileage would provide for 80 to 90 per cent of the mileage traffic of the state is a reasonable conclusion and is supported by the survey of traffic made in other states.

In consideration of these facts, be it

RESOLVED, By the House of Delegates of the Kentucky Medical Association, as follows:

1. That we respectfully urge the Highway Commission of Kentucky to concentrate construction so far as possible upon continuous highways so greatly needed;

2. That when highways are completed, they be put under the care of patrol maintenance, giving these patrols the police power to stop overloaded vehicles which are destructive to the road;

3. That a broader system of maintenance be provided for the lesser important roads, that the service of improved highways be provided for the largest possible number of citizens.

This report is signed by E. W. Weathers, of Elkton, E. L. Gates, of Greenville, and R. R. Elmore, of Louisville.

THE SECRETARY: I move the adoption of the resolution and the filing of the report. The motion was seconded and carried.

PRESIDENT BOYD: We will now have the report of the Committee on Health Problems in Education by S. L. Beard, Shelbyville.

#### REPORT OF THE COMMITTEE ON HEALTH PROBLEMS IN EDUCATION

“The health and welfare of the children of the United States is a community, a state and a national responsibility. These children are a charge not only of all the public, but of the private agencies whose interest and strength is in citizenship. We find all sorts of groups studying the child, his inheritance, environment, psychology, habits, his possibilities. For are not our children even before they are born potential citizens?

“The United States is a great and expansive country, harboring within its borders many types of different kinds of people. The financial resources of every state, as well as the people and the health problems, are so varied that it would be impossible to handle any two alike. Some of our old New England and Southern States are most conservative, bound by many traditions, and look askance at some of the newer methods. Old age never sees with the eyes youth; they must not be expected to grasp so readily new ideas as will the young and progressive Western states. Nevertheless, the fundamental needs and obligations of all communities are the same. The death rate of the infants and the pre-school child is everywhere too high. Children are growing up with physical defects uncorrected, leaving them unfitted to grasp in childhood available educational opportunities. Many are failing to reach their highest possible adult development. The least we can hope to do is to give to every child a chance to attain through environment, health and education his best development. Each community is a problem unto itself, and it is only as it is awake to its responsibility that we may have any hope of its children.

“Right here comes the responsibility and opportunity of public agencies, such as State Bureaus of Child Health. Therefore we must consider the needs in Kentucky and the possible cooperation, the joint responsibility of public and private agencies in the observation of a child health program. It is impossible for the limited personnel of a state



organization to continue to carry out the detail of established child health work in every community, nor would it be good for the community if it could. As a trained group, the state department can show the local people the need of improved conditions; they can assist in the organization of the community and show them how to carry on the work. But it has failed in its work if it has not inspired the community to do for its own children.

"In looking toward success in child health work, the interest and help of all private and public agencies must be obtained, the most important of which is the local medical society. The advice and help of the medical profession is essential to any health program. We have found our physicians our unselfish and valiant bulwark. Those who fail to avail themselves of their aid make a glaring mistake.

"Next in importance are the men's and women's clubs and all religious organizations. Often the rural church is the only community center, and its cradle rolls are a good beginning in any community. Close ties should be formed with town and county boards of education, so that the standards of health teaching in the schools may be the most approved. In making the teacher our ally, the child in the school, the pre-school child and the home are benefited. Back of the teacher is the Normal School, and here again the State Health Department can co-operate by getting to these schools the right standards of health teaching for teachers. Included in the groups of women's organizations is that most valuable one, the Parent-Teachers Association. It is comprised of the home-makers who want the school fit for the child. Through the Bureau of Child Health they can learn how to make the child fit for the school.

"Then there are philanthropic and industrial organizations, some of which are doing good child health work; these can be persuaded to employ nurses trained in health work.

"The county newspapers are always generous and will gladly carry weekly talks on child health furnished by the Bureau of Child Health. Also the co-operative marketing magazines, which go into the rural homes of landowners and tenant, will carry a page on child health. Through kindness and fair dealing, through unfailing courtesy and helpfulness, pleasant relations will be maintained with all these organizations, each organization learning the joy of comradeship in service.

"The General Federation and the State Federation of Women's Clubs are deeply interested and co-operative in child health work. The Director of the State Bureau of Child Health should give an annual report of the work of the department before the State Federation meeting. The Bureau should offer speakers on child health to all organizations. The public should be kept acquainted with the activities of the work, and all of their demands met and their help sought.

"The Bureau of Child Health should co-operate with county health nurses, Red Cross nurses, and county health units, assisting them in organizing their communities to make a survey of all pre-school children and to establish permanent child health centers, and supply them with child health literature. These surveys should be made by local women, who also act as conference aids in the child health centers. Through this intimate connection with the work their interest and support will be held. It will be impossible to do the work unaided, which can be accomplished by so varied and large a number of groups, and will be fine and heartening to see how splendid each group is.

"In counties where there is no health nurse, through co-operation with boards of education, men's and women's clubs, churches and local physicians, the Bureau of Child Health should put on demonstrations, examining with the aid of local physicians all the children—school, pre-school and infants—in the county. Participation in financing the health nurse may include state and county aid, boards of education, men's and women's and the Red Cross. One satisfactory way to encourage interest in child health is by child health conferences at community, county and state fairs, where children are examined and weighed and parents advised on child health problems.

"The success of child health work depends on the development of a community conscience as to its responsibility to its children. Many communities are financing all of their health work; many will never be able to do it alone.

"The children in these communities are American citizens; if need be, they will be expected to defend the Flag of our country, for which they will need strong bodies. Whether they are born in a wealthy or a poor community or state is not of their choosing. Few of our states have great enough wealth to meet the needs of its children. Had it not been for the federal financial aid, of which most of our states

are now availing themselves, it would have been many more decades before most of the states could accomplish as much as they have in the past two years. Through this federal aid, state health departments have been able to arouse an interest in maternal and child health. Self-respecting citizens knowing the need and hungering for authoritative teaching in matters pertaining to child health are, to the limit of their resources, responding to the plans laid out by state health departments. We are told that in some of the wealthy industrial sections of the United States there are many rich private philanthropic organizations doing child health work, each vying with the other. Such a thing as co-operation with such groups is impossible lest one get the credit sought by the other. I am happy to say that in the state in which I work we have not trouble with wealth or rich organizations, because with us they do not exist. It has been said that adversity welds human beings together; so it is with us, for we must pool our strength and our resources and work together for the love of our children and not for our own credit. We would say that lack of self-interest in all organizations working for the good of children is a keynote of success.

PRESIDENT BOYD: We will next have the report of the Committee on the JOURNAL.

#### REPORT OF THE COMMITTEE ON THE JOURNAL

OSCAR ALLEN, McHenry: Your Committee on the JOURNAL desires at this time to express its sincere appreciation of the efforts and expenditures not only to make it the leading light among the state medical journals but to do so without any expense to this Association.

It is very gratifying to note that the advertising has paid for the publication and the distribution of the JOURNAL.

We regret very much that it was impossible to publish all the articles submitted during the past year because of lack of funds, and we would recommend that some step be taken whereby the JOURNAL can be enlarged. We would suggest more advertising, if the right kind can be secured; if not, some other allotment, because under the present arrangement the pages of the JOURNAL are being restricted to certain sections, and others are arbitrarily denied the expression of their ideas through its columns.

This is a democratic organization, and the invigorating influence of this Society should permeate the remotest villages of this commonwealth with sufficient force to make the doctors in these localities feel they are a necessary part of the organization. We believe the most good can be done by allowing the JOURNAL to reflect the trend of medical thought over the entire State, city and country alike. (Applause)

THE SECRETARY: I move the adoption of that report. The motion was seconded.

THE SECRETARY: I want to say just two or three things. I think that sort of report is the thing that makes the backbone of this Association. It is the fact that Dr. Allen in this report has reflected the consensus of medical opinion in the State. It has grown and crystallized that way from the beginning. You remember when the JOURNAL started. I always love to visualize that little JOURNAL we got out at first with its sixteen pages, two of them of advertising and the rest of them of misprints. It was an interesting little old thing. We were all mighty proud of it. We thought it was the best thing that ever had been printed or ever was going to be printed.

I think Jim Bullitt was probably as hard-boiled as anybody about nearly everything else except certain problems of heredity and eugenics and that JOURNAL. He used to nearly weep when he saw that copy come out, because he didn't think it was possible, because of our paucity of experience and lack of means, to get out a JOURNAL that was owned by every doctor in Kentucky. It attracted also the patronage of advertisers because the doctors of the State have realized to a degree that they have not in any other state that that JOURNAL is our JOURNAL, that it is every doctor's JOURNAL, and they patronize the advertisers preferably to other competitors selling similar wares, and that has made the advertisers patronize the JOURNAL. It has made them pay higher prices for pages of our JOURNAL than they pay for any similar publication, and that has enabled the JOURNAL to be published.

Up to last year we were able, from our income, to pay the entire cost of the JOURNAL and have a few dollars each year but two as profits, not more than \$15 or \$20 or \$50 or \$75 as a rule, and the two years that we lost money we lost less than \$100 on the publication of the JOURNAL from the advertising lists alone.

If the Society had no other activities, or even if it had, I doubt if it could devote



any money or spend any money in any way for the betterment of the profession and for the improvement of public health better than on the JOURNAL, but unfortunately the necessary amount of money spent for the Medico-Legal Committee has been increasing constantly; it has gone up from \$1,000 in the beginning until now it has gotten up to pretty nearly \$4,000 a year. It looks like it is going to continue to increase for a while before public intelligence gets to the point where the blackmailing lawyer and the kind of charity patient that is always looking for something for nothing is going to be gotten rid of and we are going to continue to have increasing numbers of malpractice suits against every man who has anything until we have educated the public along that line as we have along the other lines of public health and public welfare.

Here is the problem that has confronted not our Association alone but every association. We are charged with the responsibility for the public health education. The General Assembly in the State has gone further than any other state except Alabama in putting that responsibility squarely up to the profession. We can't do that work and at the same time do the work for the improvement of the profession in which we are all interested without money. It takes money to do the job and we have got, after all, to get all the money we can from outside sources. It takes our money chiefly to do it. The plan that has been worked out in the West where the greatest progress in medical organization is now being made (because they didn't attain our results as quickly as we have; self-interest has made it necessary for them to organize in self-defense against the increasing hordes of quackery) has been to increase the annual dues of the state society to \$25, in two different states to \$50 a year. The very large increase in funds there is necessary because in those states they have in addition to the legislature that we have with us every two years, the constant menace of a referendum, and any bill that fails in the legislature may, by a small number of voters, be initiated, as they call it, and put on the ballot list, and they have from two to five hundred bills on the list each year, from five to twenty-five per cent of which refer to public health, that the public has to be educated on, and every voter votes yes or no on the bill as submitted without the possibility of amendment. That is an innovation that I frankly say I hope never will get this far East. I trust the mountains and deserts will succeed in either

obstructing it or drying it up before it gets to us. We have enough troubles with our system. God knows what we would do if we had the other.

The two problems that we have before us chiefly are our medical education, our public health education, and then the protection of our doctors against these blackmailing malpractice suits, and the thought has occurred to me, and I think it is worth considering and referring to the county societies for action, that if we are to continue to publish the material we get, we must provide means with which to do it. It was all right as long as the county societies were in a developmental stage; as long as they were moribund they did not send in many proceedings, but now the district and state and county associations are having a splendid lot of papers prepared before them that show the real progress of medicine. I think the most graphic thing that comes to us here in the office is the number of doctors that read the JOURNAL from cover to cover or read every article in which they are at all interested—everything except the very technical ones in which nobody is interested but the proofreader and the author. We publish some of that kind from time to time because technical progress has to be noted as well as general progress.

It has impressed me, and I believe the time has come for action, that the best thing for us to do is to create for the whole state society a fund which will protect our members against being mulcted unjustly for malpractice suits. We have had, in the last three or four years, several of our members practically ruined financially after they have passed the meridian line of life by an utterly unjust and unjustifiable decision in a malpractice suit. It is an outrage that we can only meet by joint action, because the contributions by each of us of a small sum of money each year would protect every honest and worthy physician in the state from such a system. But on the other hand, we have reached about the maximum income from advertising and we can't make the percentage of advertising as high as it is in lay magazines or the weekly magazines; if we do we are cutting down constantly on the number of reading pages. In order to have more reading pages we have to put some of the money from our other income into it.

I believe the time is coming when we should have a fund for the defense of our members on just this suit for malpractice, not only the defense but for the actual care of any verdict unjustly rendered. Then in addition

to that I believe we should have such a fund as will enable us to practically double the number of reading pages of the JOURNAL so that every society in the state can have every paper that is read before it considered worthy of publication published in the JOURNAL, as has been done every year since we have had the JOURNAL except two, one years ago when under similar conditions we were short of money, and this last year. For that reason I believe there should be a material increase in the dues of this State Society. I don't believe that should be done without consideration by every county society in the State, but I believe the time has come when there should be arranged for two or three years, until we have a reserve fund of sufficient size, dues of at least \$15 a year for indemnity against malpractice. I believe the regular dues of the State Society for the carrying on of its work should be at least \$10, and, I believe we should refer that matter back through the Councilors and the Delegates to every County Society in the State for consideration with a view to acting on it at the next annual meeting.

The motion to adopt the report of the Committee on the JOURNAL was carried.

J. G. GAITHER, Hopkinsville: I doubt very much the wisdom of materially increasing the State Medical dues. I speak from the point of view of an active worker in Christian County. We have been having quite a time down there. The Christian County Society has always been a very active and live body until the last two or three years. We have had a very hard time keeping up the attendance and enthusiasm the last several years. Our dues have been increased a little bit down there. At the present time they are \$7 a year. We have found it is impossible to get a crowd to come, unless we have a luncheon of some kind. If we announce that we are going to have our regular meeting at half-past one and have a couple of papers, the chances are we will have four or five or six of the old steadies who will appear. On the contrary, if we announce that we are going to have a luncheon and one or two out-of-town speakers, we will get twenty or twenty-five men. That has put a little additional burden either upon some individual members who will entertain or occasionally upon the funds of the society, which are always limited.

At our last meeting, this very question was discussed, what methods we should use to stimulate enthusiasm in our county societies, and if that is not a successful unit, then your

State Society is not going to be successful. We suggested a course of quizzes or lectures on some of the fundamentals, and a continuation of our luncheons. That brought up the question of how they would be financed. The motion was made that an additional fund be put upon the regular dues, and it was unanimously voted down and the majority of the men who do smaller practice simply stated they could not belong to the society and pay any increase in their dues.

I think before our State Society considers that, it would be very well to feel out the pulse of the rank and file, because I do not believe it would be proper.

W. O. EATON, Ashland: Do your \$7 cover both state and county dues?

J. G. GAITHER, Hopkinsville: Yes. I doubt also very much whether for the purpose of legal protection the majority of the men are willing to pay any material increase and I really think that should be a personal matter with each man and not so much a state matter. There are ample and adequate insurance companies that will do that for you for a reasonable sum, and with the legal defense which the Medical Society renders I do not believe it would at all be a good financial venture for us to go into the indemnity end of it where if a verdict were rendered against a doctor the State Medical Society should be financially responsible, but let each doctor who cares to maintain a small policy for \$30 or \$35 a year to protect himself. I really believe that is the best way to do it.

W. O. EATON, Ashland: You don't go anywhere, as the negro says, without some money. I am for putting enough tariff on to have a real JOURNAL and to do almost anything that the Medical Society wants to do. In our Society I have been a member for twenty-two years. Way back yonder instead of charging them dues we gave them a quarter for coming, and they would not come then. Now we charge them \$10 a year, of which we send \$5 down here and we keep \$5 at home. If some of our boys die, we have plenty of money to buy flowers; if some of them get hungry, we have plenty of money to buy food to send them. We are having bigger attendance than we ever have had. The way to fix this luncheon business is to get them to agree to have the luncheon and then make them pay for it at the beginning of the year. Get out a bunch of tickets at \$1.50 or \$2.00 a shot and go over to them and say, "Here, John, I have got twelve tickets I want to sell you, I want \$24. We are going to have these meetings and have a big



time, and if you are not there you are going to miss something." It goes over. We have had the biggest year that we have had there in twenty-two years. If you will make them come with the money they will come with the head and the heart, because you get a man's money stuck somewhere and his heart is going to be there too. Without money you can do nothing. If you make your dues \$25 you will have more members, you will give them more and they will be better satisfied.

A. H. BARKLEY, Lexington: It seems to me that in order to increase the efficiency of the JOURNAL we have necessarily got to more money. There is just one thing that I want to speak about, and that is in these various reports that have been brought out it has been emphasized that the increase in the expenditures for the last year has been so much that the working facilities have been more or less limited. Just before I left home I heard a gentleman say, "Well, some of the papers at Crab Orchard have not been published." I don't know why they have not been published. I naturally assumed there was some good and sufficient reason for it. We get down here and find there is not enough money to publish all these papers or to do other things that we would like to do.

I think in order to set this right before the various county societies, it would not be out of place at all for a few set articles in the JOURNAL by the editor to be printed stating why we want more money and why these papers have not been published. They won't read these reports. It will come out in the various reports, but they won't get it that way. If you put it in perhaps a half-page article, he will probably glance at that and he will find out in it why these papers have not been published and why we are talking about wanting some more money. If we are going to get more money, now is the time to start that propaganda, because by the time we are assessed in December or January, the County Society will not have been sufficiently informed to know what we are doing and what is expected for that money. It seems to me that we have got to increase our dues.

J. G. GAITHER, Hopkinsville: I am not opposed to a reasonable increase, but I think any large increase would be decidedly unwise. A sufficient increase to take care of any deficit I think certainly should be made.

A. H. BARKLEY, Lexington: Does the Council or the House of Delegates handle this?

THE SECRETARY: The Council, but the House of Delegates controls the Council.

A. H. BARKLEY, Lexington: I was going to suggest that a committee be appointed to look into this and see how much approximately would be necessary to carry on the work of the JOURNAL and carry it on right.

THE SECRETARY: I think it would be very proper to do that. I think it would naturally go to the Finance Committee, of which Dr. Barkley is the Chairman.

A. H. BARKLEY: I move that a Committee be appointed. The motion was seconded.

J. G. GAITHER: I amend that motion that it be referred to the Finance Committee for action.

A. H. BARKLEY: I accept the amendment.

V. E. SIMPSON, Louisville: I am sorry that I did not hear the report of the Committee with reference to the matter. It has occurred to me in this connection that a good deal of valuable space is used in the JOURNAL so that perhaps there may be a reasonable ground for discussions as to whether or not it is being used most advantageously.

Of course, we understand that a good deal of space in the JOURNAL this past year has been devoted to private societies for which the private societies have paid. That does not encroach, I understand, upon the space that is allotted, whatever that may be, depending on our income, because of publication of papers read before meetings of regularly constituted societies. I may say just here that I personally do not believe that the publication of papers from private medical organizations is a sound policy, and I think yesterday it was recommended that that be discontinued, with which I am heartily in accord. For instance, the Chirurgical Society pays so much per year for so many pages and prints its matter. I don't think the STATE MEDICAL JOURNAL should go into the business of publishing papers for private societies, because this is the official organ and we cannot in any way control the material that comes from private societies—I mean societies organized largely for their professional and social aspects without any relationship whatever with official organizations. We have no way whatever of controlling the material, and the occasion might arise when

material would appear that as an organization we would not entirely approve.

I think we ought to discontinue the publication of papers read before such organizations as are constituted in the sense of private medical societies in contradistinction to official ones.

Then again, it has occurred to me that, as a single illustration of space being consumed, there has been in the past year a considerable number of pages published or consumed in the publication of reports from the Obstetrical Service of the Louisville City Hospital. I think we pay for that space, if I am not misinformed.

**THE SECRETARY:** The State Society partly pays for it and the Bureau of Child Hygiene and the State Board of Health partly pay for it.

**V. E. SIMPSON, Louisville:** A great deal of space is wasted in that manner. I am not opposed to having a certain space set aside for such material as may come from this service in the City Hospital; it may be of advantage to men who are doing obstetrical work, but I do submit that as it has been done in the past twelve months it is not worth the space that we have put into it.

That is without any intent whatever at criticism of the doctor in charge of the service or the doctors who have performed professional service in that department. That is not my idea at all, but I do say we have devoted more space in the JOURNAL to the printing of that particular material than it is worth to the profession.

Then again, I always like to take a shot at the Secretary. If you will look back the past year and count up the pages that have been devoted to editorial and quasi-editorial matter, you will find that a good deal of space has been devoted to the publication of doings in Frankfort. Some of it is necessary. I was heartily in sympathy with the effort on the part of the organized profession with reference to the legislation proposed in Frankfort last year, as the Secretary well knows, but at the same time we don't need dissertations and sermons and articles in extent with regard to matters of that sort. It is true that part of the official organization of the State Medical Society is of a political-medical nature; it is true that it is partly of an educational nature outside of the political side. But I think too much space has been devoted to that. We can trim our corners a little. Let's cut down a little of the verbose statements. There were letters and all that sort of stuff printed

Somebody else would write somebody else and somebody else would answer, and all that was printed. A short, concise statement of what we propose to do, of what we want the profession to help to do, and then an after-statement of what has been accomplished is all that is necessary. I think a little better judgment might be exercised there. If we will do that, if we will cut down the material that is in a sense unnecessary, and if we will condense it, we will have more space to present material that is presented in a merely scientific sense.

If the revenue from the advertising end of the JOURNAL is not enough, we must have more. I don't know anything about that now, but I do know enough about it to be absolutely in sympathy with the effort to get money for advertising space in the JOURNAL. I tried that for several years, and I know exactly what it means; it is a hard job. If the revenue from the advertising columns and the revenue from the county dues is not sufficient to do what we have to do and print the material that is published in good faith in a scientific sense, then we must increase our dues, but I certainly am not in favor of just willingly pouring money into the treasury with the idea of going on as we are going on now in a rather loosely conducted way of printing material. It is not as condensed as it ought to be. We are printing material that we don't have to print, and perhaps some sort of well-thought-out campaign with reference to increasing advertising income might be worked out, and then if these things are not sufficient in themselves, I am in favor of whatever reasonable increase in dues may be necessary, but I am certainly not in favor of just saying raise it to ten dollars and expecting the men to pay it. In the first place, they won't do it.

We have jogged along here in Jefferson County with more men in so far as members are concerned than any other county in the State. The more doctors we have the more likelihood we have of a creditable attendance at the meetings, but we have difficulty even then. If we were to go to over 300 members of the Jefferson County Medical Society and say, "Here is a bunch of tickets that you have to pay \$18 or \$24 for in order to get things printed for the year," we wouldn't sell many of them. It is apparent that the only way to conduct a feed adjunct to your medical meetings is to let the men pay as they come. If he is there he pays for his dinner, but he will not buy twelve months in advance a ticket for a dinner in November



when he doesn't know what he is going to be doing that day.

What I have said is without any criticism of the Secretary. He understands my position about that. He can save some space, I am sure.

The question of whether or not we should print every paper that is read before every society in the state is one for the Council to decide. There might be argument pro and con, but I have always felt that the man who reads a paper out in some isolated rural community is just as much entitled to the space in the JOURNAL from the standpoint of his contribution to the good of the order as the man who holds a chair in some university and who reads a paper before the medical society in the metropolis of the state. It is encouraging to many of them to better prepare themselves for that paper if they know it is going to be printed. There is nothing in the world, in my judgment, that will tend more to make a man lax in his preparation of what he is going to say to the medical society than the fact that he knows it is not going to be published, and if he knows it is going to go down in black and white he is going to get ready what he has to say, he is going to dress it up and present it in an orderly way, and it is going to look like something when he gets through with it. If he knows there is a chance that the Council or some board is going to sit in judgment on his paper and decide whether or not it comes up to the mark in the way of publication, in the first place it is doubtful whether he will work on it, and in the next place if he does and it is not published it will create hard feeling. The wise thing to do is to print all papers submitted for publication, and then if we can't meet it any other way let's do it with any reasonable increases necessary in our dues.

**THE SECRETARY:** Dr. Simpson's criticism is, as usual, interesting and valuable. There are two or three points that ought to be clarified for the record. First, the Medico-Chirurgical Society in Louisville pays for the publication of six pages in each month's issue of the JOURNAL. The scientific articles read before that Society of course are all written by members of the Jefferson County Medical Society. The scientific articles are well prepared and are all right. The ones that have been prepared that the Council felt should not be published have not been printed. In all those matters the Council reserves the right to reject any article, of course. There has crept in an abuse that

the Council has corrected; that is the loosely drawn and loosely worded case reports, and impromptu arguments and discussions before the Medico-Chirurgical that have been published have grown increasingly less interesting and less valuable, and the Council has determined that they should be omitted in the future.

There is an additional criticism in regard to the contributions of the Obstetrical Service at the City Hospital. It has been not only an expense, although part, or a reasonable part, of that expense has been borne by the Bureau of Child Hygiene, but it has been a considerable expense in another respect, that the publication of those articles has caused us to have a very large increased subscription list outside of the State, and we lose money every time we get a subscriber, because the subscriptions to the JOURNAL are \$3 a year and it costs about \$6.50 a year to print it. Every time we get a subscriber we lose money. We try our best not to get any from outside of our membership, because it is published for the benefit of the members and now the numbers have grown to pretty nearly 300 since this publication has been undertaken, because admittedly our Obstetrical Service in the United States is our most effective service that is of universal requirement. It is for that reason that the Council felt for a year at any rate a post-graduate course in practical obstetrics, of actual work being done systematically and well, was of value.

Arrangements have been made already to curtail that service so that the statistics and tables and other things of that sort which are interesting to a comparatively small number of men will not be published hereafter.

Preference is always given to papers from the regularly organized County Societies that are holding meetings. Members of those societies are shown preference even before the papers read at this Association. The papers are published from the County Societies that hold their regular meetings, and the Council never has rejected a paper that has been sent in by a County Society. The papers sent by the County Societies are published eventually, and up to this year they have all been published during the year they were read and within three months of the time they were read. The promptitude is one of the most important features. The only delay has been with regard to papers read before the Jefferson County Medical Society because of their large number. They are frequently much later than that.

There is no question about the justice of the criticism in regard to the verbosity of the editor, because he is built that way. His mother having been a woman and his father an Irishman, he naturally has a liberality in the use of words that it is extremely difficult to overcome. He recognizes that fact and freely confesses to it.

We made a very careful study of the subject matter that has been presented during the last year, and it would have cost approximately \$2,000, or exactly \$1923, to have printed the additional papers that are now on hand, a third of which are in type and have been proofread. That is the amount that it would take to continue to do what we have always done heretofore, that is publish all the articles that are sent in from all the County Societies themselves. I believe that is the best investment we could make.

In regard to the increase of dues, it is very much like the increase of taxes or other necessary expenses. There is just one thing necessary. If the dues are increased at any time in any organization, it is essential that the service shall be increased out of proportion to the dues. If it is not, the membership is dissatisfied, but the interesting thing in this Association (remember, our dues were originally \$2, they are now \$5, they have been increased a dollar at a time) is that the increase in every case has resulted in an increased membership. More county societies are working under the present expenditure than were working at the beginning. Of course, it is important to realize that the increase of dues to \$5 from the original \$2 is an apparent increase and not a real one, because the \$5 now purchases less than the \$2 did when the dues were \$2. Medical fees and all of our other costs have increased proportionately. In the states in which the dues have been very materially increased, where they have been made as much as \$25 and \$50, in California and Oregon and Washington where I have had the privilege of being in many of the counties and have been at two or three different annual meetings of their state societies, it is of interest that while members who are conservative always look fearfully upon the increase of dues, as a matter of fact, the membership in those states has increased with the increase of the dues, and in Texas where they have an organization that more nearly parallels our than any other state, the increase of the dues to \$25 resulted in an increase in the state membership of more than 600 in the year in which

they first increased, last year, because the profession realizes that for \$25 they are getting a service that they could not get for the smaller amount. They don't realize that nothing is done.

I think the motion of Dr. Barkley as amended by Dr. Gaither is an eminently fitting one, that the matter shall be referred to the Finance Committee and that they shall make a recommendation to this House of Delegates. I hope that motion will prevail.

The motion was carried. Upon motion regularly made, seconded and carried, the meeting adjourned at nine o'clock.

#### SEPTEMBER 24. FOURTH MEETING OF THE HOUSE OF DELEGATES.

The meeting was called to order at six p.m., by Dr. C. W. Dowden, of Louisville, Vice-President.

CHAIRMAN DOWDEN: We are ready for Dr. Barkley's report from the Auditing Committee and Finance Committee.

#### REPORT OF THE AUDITING COMMITTEE

The Auditing Committee begs leave to report that it has gone over the papers of the Secretary and Treasurer, as well as those of the Auditor, and found all receipts and disbursements correct and vouchers for same.

This Committee has been especially impressed with the vast increase of the expenses for legal services, including lawyers' fees, court costs, etc., rendered during the past year.

Balance on hand Sept. 1, 1923.....	\$ 1,769.63
Total receipts .....	16,182.64
Loan .....	2,000.00
Total .....	19,952.27
Disbursements .....	18,284.60
Balance on hand .....	1,667.67

There are some outstanding vouchers, but they all have been included and this is the net balance. Probably those figures don't appeal to you very much. Of approximately \$20,000 collected from all sources, approximately \$5,000 has been expended for legal services. In other words, twenty-five per cent of your total receipts have gone for that. From what I can gather from the gentlemen who are in touch with the legal end of it, these expenditures have increased from year to year, but they have jumped very materially this past year.

While I have the floor I would like to make one other report. Yesterday in the House of Delegates there was a motion made to see if something couldn't be done toward



raising money for the JOURNAL, and also a few other things that were necessary. It was referred back to the Auditing Committee, and we got as much information as we could, but without figures right at hand it is almost impossible in the short time we have here to go into that thing in any very definite way. Of course, our recommendation will necessarily have to be in a very general way. The only thing we found out was this: That there are a number of papers that have not been published, that can't be published, they haven't the money to publish them. Is that right, Dr. McCormack?

THE SECRETARY: Yes.

A. H. BARKLEY: If they publish all papers sent in they have to have more money. It has been suggested, on the other hand, that we use the blue pencil and condense these papers or cut out a lot of stuff that to me or to you might seem entirely extraneous. The man who writes that paper does not think so, and I, for one, would not be willing to do that. I wouldn't be willing to put our Secretary, who is editor of the JOURNAL, in that position, either. I think he would incur the enmity of every man who sent in a paper, and I don't think we ought to do that.

I think it would be very difficult for him to go over a paper, anyway, and pick out what I would like to have or what you would like to have. I don't think there is a man who can condense a thing like the man that writes it. It has been suggested that we send the paper back to the man and let him condense it. I doubt the expediency of a thing of that kind. It has also been suggested that smaller type be used in certain articles that appear so that they will occupy less room. Those are things that this Committee can't possibly make a report on, because none of us are familiar with it. Those are things that nobody except the man who is in journalistic work like our Secretary, who is there every day, can understand. I don't think there is a man who can go in there and tell him just what he must cut out and must put in. The only thing we want to recommend is that it is either a question of raising your dues \$10 or making some other provision to raise the money. We have got to have the money; I don't know how we are going to get it. It has been suggested also that a fund be created to take care of this deficiency that would occur if they would go ahead and publish all these papers and do some other things that they would like to do. That is a very difficult

thing to do. I think it is very questionable whether they would raise a fund because there are a number of people who would not subscribe to it. There are a number of doctors in the outlying districts who would not subscribe to it. They would receive the same benefit from the legal end of it.

So it is a thing that is just a question of what is best to do. This Committee has looked into it as far as they are capable of looking into the proposition, and we believe that it is a question of raising the dues. How much? We don't know. We will say \$10. It has been suggested that that would be fair. We get \$5 now; raise it to \$10. Of course, this would have to be referred back to the County Societies and they would have to take some action. We have no written report. We just want to make that statement.

A. O. TAYLOR, Maysville: I move we adopt the report. The motion was seconded and carried.

THE SECRETARY: We will take that as instructions to refer to the County Societies for consideration next year the matter of increased dues.

W. B. McCLURE, Lexington: Just in this connection, before making a raid on the treasury I think it well to give warning, and it may set better with the House of Delegates if they know what is going to transpire. The Council met an hour ago upstairs and took up an old question that has been before this body for four years. You will recall about four years ago a good lady in the City of Richmond, Mrs. Irvine, attempted to convey to this Association certain property, the value of which is somewhere between \$40,000 and \$50,000, situated in Richmond. There have been a great many legal complications. Just now there are in those legal complications, because we had our attorney before us, emergencies that will require going to St. Louis in order to defend some rights that we have there. To make a long story short, the Council instructed that the treasury should be drawn upon to the extent of \$1,000 to meet these expenses. It sounds like a good deal of money, but when that comes out and is printed in the JOURNAL we just want to have a record of the fact that it was presented to this House of Delegates. The details are too long and I am not sufficient of a lawyer to tell you just what they are, but with such prospects as I say of property worth \$40,000 to \$50,000, we didn't think we could lay down on the proposition of in-

vesting \$1,000 which we think we will get back with much more.

THE SECRETARY: I move the approval of that report from the Council by the House of Delegates as is necessary under Constitution for the expenditure of the money. It looks like a good investment, and there are certain details with regard to it that we can't make a statement about just at present for obvious reasons.

The motion was seconded and carried.

VICE-PRESIDENT DOWDEN: There is to be presented a picture of the first President of the Kentucky Medical Society, the title that I think it enjoyed during the first period of its organization—Dr. Sutton, to be presented by Dr. Vernon Robbins, of Louisville.

VERNON ROBBINS, Louisville: I have but few words to say. Dr. William L. Sutton, of Georgetown, Kentucky, was a leader in organizing our profession in this State 74 years ago; at a meeting held in the old Capitol at Frankfort in 1851, this Society had its birth, and from among such choice spirits as David Yandell, Samuel Gross, and many others, Dr. Sutton was chosen as its first President.

It was due to his influence that the first law was passed requiring registration of births and deaths. He was the first state registrar of vital statistics and published valuable reports for a number of years.

I now give to the Society a photograph of Dr. William L. Sutton in memory of my wife, Mary Elizabeth Buck Robbins, who was a great-granddaughter of the subject of these remarks.

VICE-PRESIDENT DOWDEN: On behalf of the Society I want to thank Dr. Robbins for this splendid picture. It will be hung in the office of the Secretary along with many other of our departed generals.

THE SECRETARY: As there are no committees here to report, I move the reports be deferred until tomorrow morning after the election.

The motion was seconded and carried, and the meeting adjourned at six-fifteen p.m.

---

SEPTEMBER 25. FIFTH MEETING OF THE  
HOUSE OF DELEGATES

The meeting was called to order at eight a.m., by Vice-President C. W. Dowden, of Louisville.

VICE-PRESIDENT DOWDEN: The first thing is the roll call.

A. H. BARKLEY: I move we dispense with the roll call. The motion was seconded and carried.

VICE-PRESIDENT DOWDEN: The next is the election of officers. We are to elect a President, three Vice-Presidents, two Delegates to the American Medical Association, Orators in Surgery and Medicine, and four Councilors. Nominations for President are now in order.

H. P. SIGHTS, Paducah: I would like to present the name of a man for your consideration, a man whose reputation as a physician is unquestionable, a man who has responded to the service of the profession and has served his country and answered every request from his State Society, a man who is accomplished in surgery and comes from a town which has heaped upon him every honor in his professional life. His name is Dr. Robert L. Woodard, of Hopkinsville. If you elect Dr. Woodard you will elect a man who will reflect credit on the profession of the whole State.

J. H. BLACKBURN, Bowling Green: I take a great deal of pleasure after an intimate acquaintanceship with Dr. Woodard personally and professionally in seconding his nomination for President.

W. W. DURHAM, Hopkinsville: I move you that the nominations now close and the Secretary be instructed to cast the ballot of the House for Dr. Woodard. The motion was seconded by Dr. E. L. Palmer, carried, and Secretary McCormack cast the ballot of the House for Dr. R. L. Woodard as President.

VICE-PRESIDENT DOWDEN: Nominations are now in order for First Vice-President.

THE SECRETARY: Mr. President, as the members of the House are aware, I have a great deal of hesitancy in making a nomination for office or making any suggestion in that regard, but from time to time in matters of public policy I think it is extremely important that some matters be brought before the House of Delegates perfectly frankly, and at times in the election of officers we can correct wrongs which have been done in such a way as to help the curative work of the Association.

Without any fault on the part of the gentleman whom I am going to nominate, he has been placed in an invidious position because of the association of his name with certain enemies of the profession, and it has done him an unjust wrong. In order to



place him right before the profession and put him where his character and ability should place him, because whenever the time has come when there has been a conflict between this profession and any outside interest he has been sometimes of necessity, because of other relations, quiet but always faithful and loyal. I would like to put before the House of Delegates for First Vice President, with the approval of the President of the Jefferson County Medical Society, which naturally being the host society would have the selection of this honorable office, the name of Dr. E. L. Henderson.

E. L. PALMER: I would like to move that the nominations be closed and the Secretary be instructed to cast a single ballot of the House for Dr. Henderson. The motion was seconded and carried, and Secretary McCormack cast the ballot of the House for Dr. E. L. Henderson as First Vice-President.

VICE-PRESIDENT DOWDEN: The next order of business is the election of a Second Vice-President.

J. G. CARPENTER, Stanford: I move that we nominate Dr. George S. Brock, of London. A motion was regularly made, seconded and carried that the nominations be closed and that Secretary McCormack cast the unanimous ballot of the House for Dr. Brock as Second Vice-President.

VICE-PRESIDENT DOWDEN: We have now a Third Vice-President to elect.

J. H. BLACKBURN, Bowling Green: I would like to place in nomination Dr. B. W. Smock, of Greenville. A motion was made by Dr. Simpson, seconded and carried, that the nominations be closed and the Secretary cast the unanimous ballot of the House for Dr. Smock as Third Vice-President.

THE SECRETARY: If you will permit me to make this explanation, there are two delegates to the American Medical Association to be elected, one to succeed Dr. L. S. McMurtry, the other Dr. W. W. Richmond. I have been Dr. Richmond's alternate during the period of his invalidism for the last eight or ten years. He was the oldest delegate in the A. M. A., in continuous service in the United States and we didn't want that record to be impaired. He was elected to the first House of Delegates and has been elected ever since up to the time of his death.

Dr. Stine was elected by the Council to succeed Dr. McMurtry.

VICE-PRESIDENT DOWDEN: Nominations are now in order for one delegate to the American Medical Association.

V. E. SIMPSON, Louisville: I move Dr. Stine be re-elected.

H. B. SCOTT, Louisville: I would like to place in nomination the name of J. E. Wells, of Cynthiana.

THE SECRETARY: I would like to say to the House that the election of delegates to the American Medical Association is really one of the most important things we are going to do. The man who is elected a delegate ought to be a man who has regularly attended, as far as possible; he ought to be a man who will attend the sessions, and with the understanding that he will not see a single scientific session during the meeting. He will have to be there every time from early morning until late at night, and it is an extremely irksome position to anybody who is not especially interested in business and organization. It is an honor coming from this Association, but it is not a position that is at all attractive except to those who have a taste for that sort of thing, and comparatively few men do have.

J. E. WELLS, Cynthiana: I would like to ask that Dr. Scott withdraw my name. I have plenty of work to do in my other capacities and I would rather not be elected.

H. B. SCOTT, Louisville: I nominated Dr. Wells because I knew he was the type of man for the position. If he does not care to accept I withdraw the nomination.

W. B. McCLURE, Lexington: I place in nomination for the position a man who is thoroughly familiar with the workings of the American Medical Association,—more familiar probably than any other man in the United States; he has had more to do with the building up of that organization, and I think it would be a mistake to leave off A. T. McCormack. I place him in nomination as a delegate to the American Medical Association.

H. B. SCOTT, Louisville: I move the nominations be closed and one ballot be cast for Dr. Stine and Dr. McCormack. The motion was seconded and carried.

W. B. McCLURE, Lexington: The Secretary pro tem, on account of the modesty of the Secretary, will announce that Dr. F. A. Stine, of Newport, and Dr. A. T. McCormack are elected delegates to the American Medical Association.

VICE-PRESIDENT DOWDEN: Nominations are now in order for the Oratory in Surgery.

W. BARNETT OWEN, Louisville: I would like to nominate J. H. Blackburn, of Bowling Green.

S. B. MARKS, Lexington: I second the nomination, and move Dr. Blackburn be elected unanimously. The motion was seconded and carried.

THE SECRETARY: It affords me a great deal of pleasure to cast the ballot of the House for my personal friend and colleague, one of the most distinguished gentlemen in the profession, Dr. J. H. Blackburn, of Bowling Green, for Orator in Surgery.

VICE-PRESIDENT DOWDEN: Next is the election of an Orator in Medicine.

J. G. CARPENTER, Stanford: I nominate Dr. James B. Kinnaid, of Lancaster.

THE SECRETARY. Dr. Kinnaid has been orator in medicine. I suggest you nominate Dr. Virgil Kinnaid.

J. G. CARPENTER, Stanford: All right, I will nominate Dr. Virgil Kinnaid, of Lancaster, as Orator in Medicine, and I move the Secretary cast one ballot for him. The motion was seconded and carried.

VICE-PRESIDENT DOWDEN: It is now time to elect a Councilor to succeed Dr. Aud of the Fourth District.

THE SECRETARY: Mr. President, the Association is extremely fortunate in the opportunity and selection of the Councilors, because the Councilor is really a medical bishop. It is a position of the greatest responsibility in the entire organization. It is far more important than the Secretaryship or the Presidency or any other position. Upon the character and personnel and morale of the Council depend the standards and the efficiency and the work of the entire organization. It has been extremely fortunate that the men who have heretofore served and accepted positions on the Council have accepted those responsibilities with the feeling that they intended to be on the job all the time. It is an expensive position; it costs the Councilors who do their work effectively and well approximately \$100 a month in loss of time and absence from home; it is a real sacrifice for these men to be members of the Council of the Kentucky State Medical Association. We are fortunate in the Fourth District in having Dr. E. S. Smith, of Hodgenville, a man whose character, organization ability, standards of thought and qualifications in every way fit him to be a worthy successor to that remarkable man whom we have lost since the last meeting, Dr. Aud. I take a great deal of pleasure in placing

in nomination the name of Dr. E. S. Smith, of Hodgenville. A motion was regularly made, seconded and carried, that the nominations be closed, and Dr. Smith was elected unanimously.

VICE-PRESIDENT DOWDEN: Nominations are in order for Councilor of the Fifth District.

V. E. SIMPSON, Louisville: I want to place in nomination the name of Dr. W. E. Gardner, of Louisville, for Councilor of the Fifth District. I believe knowing Dr. Gardner as well as I do, that he will fill the requirements which we so well recognize are necessary to make an ideal Councilor, a man who is capable of handling men, a man of integrity and who I believe will make a success as Councilor. The District is not any too well organized at present, perhaps.

R. J. ESTILL, Lexington: I would like to place in nomination the name of Dr. C. G. Hoffman to succeed himself. He has been Councilor for a number of years.

BARNETT OWEN, Louisville: I think that Dr. Hoffman has all the qualifications that Dr. Gardner has. I notice that Dr. McCormack said the man should be a medical bishop. Dr. Hoffman looks more like a bishop than Dr. Gardner does.

Tellers were appointed and ballots cast, with a result of 25 votes for Dr. Hoffman and 33 for Dr. Gardner.

VICE-PRESIDENT DOWDEN: Dr. Gardner is therefore elected as Councilor of the Fifth District.

Nominations are now in order for a Councilor for the Eighth District to succeed Dr. F. A. Stine, of Newport.

C. W. SHAW, Alexandria: I desire to place in nomination Dr. F. A. Stine of Newport. Dr. Stine has been largely responsible for the success of Campbell-Kenton County, one of the best societies in the State. We feel that we would like him to extend his work to the surrounding counties. I know that he will do the same good work that he did for the Campbell-Kenton County Society.

J. E. WELLS, Cynthiana: I desire to second the nomination of Dr. Stine. He has done the work so much better than I did that I think we would make a mistake if we did not re-elect him.

R. J. ESTILL, Lexington: I move the nominations be closed and the Secretary be instructed to cast one vote for Dr. F. A. Stine.



The motion was seconded and carried, and the Secretary cast the ballot of the House for Dr. Stine as Councilor of the Eighth District.

VICE-PRESIDENT DOWDEN: Next is Councilor to succeed Dr. A. J. Bryson, of Ashland, Ninth District.

THE SECRETARY: I would like to place in nomination the name of Dr. Bryson to succeed himself. Dr. Bryson has been the Councilor since Dr. Kincaid's resignation, and in the short time in which he has performed the duties of that office he has brought to bear his pleasing personality and his effective work in such a way as to make us understand that the Ninth District now is distinctly in the contest with the Eleventh for the best medical district in America. The Eleventh District, under Dr. Lock's long Councilorship, established a standard that has not been reached by any other Councilor District in the United States. It was the first time that any Councilor District had every practicing physician in the District a member of his County Society. The Ninth District promises next year to exceed his record, because they intend to elect a few members from West Virginia in order to make it a little more than 100 per cent.

J. H. BLACKBURN, Bowling Green: I move the nominations be closed and the Secretary be instructed to cast one ballot for Dr. Bryson.

The motion was seconded and carried, and Secretary McCormack cast the ballot of the House for A. J. Bryson as Councilor of the Ninth District.

VICE-PRESIDENT DOWDEN: Nominations are now in order for a Councilor to succeed W. M. Martin, of Harlan, Eleventh District.

MASON COMBS, Pineville: I desire to nominate W. M. Martin to succeed himself.

BARNETT OWEN, Louisville: I move nominations be closed and the Secretary be instructed to cast one ballot for Dr. Martin.

The motion was seconded and carried, and Secretary McCormack cast the ballot of the House for W. M. Martin as Councilor of the Eleventh District.

VICE-PRESIDENT DOWDEN: Next in the regular order of business is a meeting place in 1925.

J. H. BLACKBURN, Bowling Green: Mr. Chairman and Gentlemen of the House of Delegates: I am here from Bowling Green to ask that the 1925 meeting of the Kentucky State Medical Society be held in our city.

I bring to you first an invitation from the Warren County Medical Society. We have had considerable discussion of this matter of the State Medical meeting coming to us in 1925, and we are all for it, we all want this meeting.

There are several of us Warren County folks that get to Louisville occasionally. Some of us get as far as Paducah sometimes. I have heard of one or two Warren County people getting as far as Middlesboro to a State Medical Meeting. That is one reason we want you. We have some folks down in Warren County that want to see the State Medical. They never have seen it, and if you don't come to see us they never will.

On behalf of the City of Bowling Green I bring an official invitation to the Kentucky State Medical, signed by our Mayor, certified to by the Clerk, and I am assured by the Chief of Police that he will take care of the balance of you. On behalf of the Kiwanians I want to extend to you a hearty invitation to come to Bowling Green. Being the President of the Kiwanis Club, I have an official and personal invitation to extend to the Kentucky State Medical to come to Bowling Green on behalf of the Rotary Club of Bowling Green; a representative has been sent here to urge that you folks come to Bowling Green next year.

What have we got to offer you? In the first place we have got the garden spot of the sage grass. We want you down there, we want to show you what we have. We have oil, asphalt, rock.

V. E. SIMPSON, Louisville: Strawberries?

J. H. BLACKBURN, Bowling Green: If you want to come in the springtime, gentle Annie, we will feed you strawberries. If you wait until the fall, we will give you the pick and choice of the whole menu.

We have got a brand new hotel there with 125 rooms. We have got various and sundry other hotels that have been there since 1876, and they are all open to you. We have hundreds of homes that would be open to the doctors of Kentucky.

In mentioning the fruits I forgot to say that our peach crop is perennial. I have been solicited rather strongly on the point of the peach brandy, too. One of these old-time treasurers of the Kentucky State Medical Association saw fit last night to inquire rather carefully of me as to what sort of inducements and the nature thereof we might offer you folks. Gentlemen, we want you in Bowling Green; we will be glad to have you if you can come. We have plenty of room

to take care of you. We will open our hearts to you. We are accessible from all parts of Kentucky. If you go to any other place in Western Kentucky you are going to have to come to Bowling Green to get there, so what is the use of going? Just stop off in Bowling Green.

I would like to ask the privilege of the floor for a minute or two for Mr. Guy Bryn, the official representative of the Bowling Green Rotary Club. Between the Rotary and the Kiwanis Clubs, we have 150 of the representative business and professional men in the town, and both clubs have urged that we insist that you folks come to see us in 1925.

MR. GUY BYRN, Bowling Green: Mr. Chairman and Gentlemen of the Kentucky State Medical Association: Dr. Blackburn has not left very much for me to say. You are busy men, and out of appreciation of the privilege of appearing before you I am going to cut my speech mighty short.

If I could speak to each one of your individually I might tell you something that I cannot tell you publicly. Virgil Simpson has already had me off to one side, and he is perfectly satisfied.

We have recently completed, as Dr. Blackburn has told you, a new 150-room hotel. The last time you were in Bowling Green we were not satisfied with the kind of treatment and accommodations we had for you. We will have completed, by the time you get there, a new \$300,000 passenger station. We have five fast trains a day coming into Bowling Green and five going out. Necessarily you must go back sometime.

We have a hospital that is going to be closed—absolutely closed tight during the time you are there. The police station will be closed, the jail will be closed; there won't be anything open but our homes, our cellars and our hearts and arms.

I come to you gentlemen as the special representative of the Rotary Club. At our Rotary Club meeting last Wednesday it was moved and seconded that we send a man up here to get the 1925 Convention of the Medical Association of Kentucky for Bowling Green and show you that we really didn't do a very good job the last time you were there, but we are going to do an excellent job this time. (Applause)

R. E. GRIFFIN, Owensboro: I can say that we have all those things and more too at Owensboro. There are several reasons why Owensboro should have this Medical Society meeting next year. Bowling Green has had it since we have. Eighteen years ago

we entertained the Kentucky Medical Society at Owensboro, and we want to entertain them again next year.

I have been ordered to give you an invitation to come to Owensboro next year. The Daviess County Medical Society met last week and unanimously voted to extend you an invitation to come. We have every facility for entertaining you down there. We have the Country Club, the golf course, the river. We give you a cordial invitation to come to Owensboro next year.

F. G. LA RUE, Lexington: I am sure you all realize the importance of proper hotel facilities and accommodations in a general way. A few of us got a little touch of that over at Crab Orchard. I feel that Lexington at this time is entitled to the Convention. Last night I received a telegram addressed to me:

"The Board of Commerce together with the Civic bodies, Rotarians, Kiwanians, Lion's and the rest of the people would like to extend a most cordial welcome to the Kentucky Medical Association to hold their 1925 meeting in Lexington. Every effort will be guaranteed to hold a successful meeting if held here."

That is signed for the Board of Commerce by the Secretary. I feel that we have ample hotel accommodations to take care of you. If you will visit Lexington next year we will do the rest.

THE SECRETARY: The matter of the place of meeting is of far greater importance than the comfort of the delegates as far as hotel accommodations are concerned. Under the fixed policy of the Association we meet in each round once in Lexington and once in Louisville. We meet then once in Eastern and once in Western Kentucky. That policy has been a fixed one for many years, and I believe it would be a mistake on the part of the Association to change or disturb that orderly relationship. I believe the meeting of this Association ought to go to Western Kentucky because it is Western Kentucky's time. We went to Crab Orchard last year, and in spite of the lack of accommodations about which a good many of the members complained perfectly justly, we had the best meeting the Association ever held up to that time because there were no diversions to distract our attention from the meeting except during the time when we were not in the meeting hall. It was so uncomfortable almost every other place that everybody stayed at the meeting as long as possible and as late as possible.



I hope very much that the House of Delegates will preserve the comity between the sections of the State and decide on one of the places in Western Kentucky.

I have a telegram from Henderson, the Chamber of Commerce, which I won't read. I am glad to say the Chamber of Commerce is an organized body, but the medical profession is wholly otherwise and I am not presenting the invitation formally because I am sure we could not go there.

MASON COMBS, Pineville: The Bell County Medical Society authorized the delegates to issue an invitation to the Society to meet in Pineville this next year, but seeing that so many are anxious for the meeting, we believe we would be justified in declining to invite you, but right here I want to emphasize what I intended to emphasize, that I believe it would be a very great place to meet. We have hotel facilities there and at Middlesboro, only about twenty minutes' run in an automobile, and we are only three miles from Clear Creek Springs that some of you perhaps have had your attention called to, where the Baptists are spending a large sum of money to build an encampment and where the water is nationally known for its virtues.

We are not going to invite you now, but we are going to warn you that in 1926 we want you to come down and see the very best, the most modern town in the State of Kentucky. It is that now, and we don't expect it to deteriorate by 1926. After you have tried Bowling Green brandy, come down and try our moonshine in 1926.

W. B. McCLURE, Lexington: I want to say that I profess to be absolutely loyal to my town, Lexington. I am just a little bit more loyal to the Kentucky State Medical Association, and while we would enjoy having this Association meet with us in Lexington, I don't believe it is right or just for a man who has just a little nicer home than his neighbor to cast reflections on his neighbor because he is not quite so well prepared for entertaining guests. I think it is an offense to tell a man who lives in a small town that he is not able to take care of the State Medical Association, because every man living in any town in Kentucky thinks it is a metropolis. Like Dr. McCormack, I believe in retaining this custom we have established and I believe that the next meeting of the Association ought to be west of Louisville. As to which one of those splendid places it should go I am not going to say or take any stand openly. I have no doubt, according to Dr. Blackburn, that they will

be amply able to care for us, because in a conversation last night he told me they had built a new 120-room hotel. Over night it has increased to 125, he states this morning. Mr. Byrn the representative of the Rotary Club, puts it at 150, so at that rate you see by the time the next meeting come around we will have a coliseum down there.

I am not a delegate from the Fayette County Society, but I hope the Fayette County representatives will not press Lexington in view of the superior claims of Western Kentucky for the next meeting.

S. P. OLDHAM, Owensboro: Since the Secretary has decided that the meeting should come to Western Kentucky there are only two places for consideration, namely, Owensboro and Bowling Green.

One gentleman spoke of transportation. We have equally as many trains going to and from Owensboro as Bowling Green, perhaps more. We also have river transportation there the year 'round. We also have under construction a 300-room hotel. Besides we have strawberries galore. We have anything else that you could wish for. I think I would be safe in saying that we have something like 27,000 barrels stored away in and near Owensboro, even the police judge and the prohibition inspector, will be off duty at that time. We will see to it that the keys of Owensboro are thrown to the State Medical Society. I don't believe there is any town in Kentucky that offers more facilities than Owensboro.

We have in and around Owensboro the finest agricultural county in the State. Bowling Green I am quite sure cannot come up to our agricultural facilities. We have everything that you could wish for, and I feel sure if the Kentucky State Medical Society should come to Owensboro, (which is due us, you have not been there for eighteen years) they will not be sorry. We extend you a cordial invitation to come. You will never regret having come to Owensboro.

EDWARD BARR, Owensboro: We all want you in Owensboro. We have Rotary Clubs, Lion's Clubs, Chambers of Commerce, and numerous other clubs, that invite you.

Bowling Green had the meeting about twelve years ago. It has not been to Owensboro for eighteen years. I don't feel that our neighbors over at Bowling Green wish to take that meeting away from us at this time. I think they are willing to admit that Owensboro should be the next meeting place. We have the best city in the State outside of Louisville. Every one recognizes that.

We have a new pike leading from Louisville under construction that probably will be so nicely fixed by next fall that all these fellows can drive through, in addition to which we have the railroad and river facilities. Let me insist upon your taking an open view of the situation and bringing the delegation to Owensboro next year.

J. H. BLACKBURN, Bowling Green: May I offer one thing that I am sure in the premises Owensboro can't offer in competition—Mammoth Cave.

THE SECRETARY: I move the nominations be closed.

The motion was seconded and carried.

Tellers were appointed, the ballot taken, and the result announced: Bowling Green 20 votes; Owensboro 35 votes, Lexington 12 votes.

J. H. BLACKBURN, Bowling Green: I move you that the House of Delegates makes the meeting place unanimous and we will all go to Owensboro next year. The motion was seconded and carried.

THE SECRETARY: In this Association pleasant things are always happening, and it is difficult to distinguish between the pleasures that we have because they are all so great. The kind of spirit that we get in this meeting, the kind of doctors that make the Medical Association now and that made it the greatest medical organization in the world, always makes things look good and go good, but among the pleasures that have been presented to us in the passing years and as we look back at these presidents who have been presidents before, it is a wonderful honor and a wonderful responsibility for a man to be elected president of this State Association; but it is also a pleasure to present to the Association a man who from his character and attainments, his experience, his ability, his cleanness, his sweetness in life, his attainments as a physician, his self-sacrificing, self-forgetfulness whenever professional interests are concerned, is eminently fitted to lead us. It is a pleasure and a privilege to present to you the President-Elect, Dr. Robert Woodard of Hopkinsville. (Applause)

ROBERT WOODARD, Hopkinsville: Mr. President, Gentlemen of the Kentucky Medical Association: I couldn't make a speech if I really tried, and on an occasion like this, faced with the responsibility of the presidency of the Kentucky Medical Association for the next year, I feel that very keenly. I very much appreciate the honor of being President of the Kentucky State Medical

Association. We have established a precedent that is hard to live up to, and a man who undertakes it feels the responsibility and feels it is *some* job. I hope to have and I know I will have the co-operation of the medical profession of Kentucky. They always have given it to their presidents and supported the organization in every way. I want you to help me to make this the best and the biggest year we ever have had. Without your help and without your co-operation I cannot do it.

At this time I want to ask each and every one to help me grow some with the Association. (Applause)

V I C E - P R E S I D E N T DOWDEN: In electing our Councilors we overlooked the First District. We must elect a successor to V. A. Stilley, of Benton. Nominations are now in order.

H. P. LINN, Paducah: I would like to place in nomination the name of Dr. V. A. Stilley to succeed himself.

The motion was seconded and carried, the nominations closed, and V. A. Stilley elected.

J. G. CARPENTER, Stanford: I want the floor for a question of privilege for a few minutes. I want to speak in behalf of a Councilor. When I was Councilor it was a new office. I had ice-burys to go up against, I had a cold, chilly atmosphere to confront. They could paw and kick and fight like a mule. I found out as I went on my little journey that there were snolocosters and sispococawas in the medical profession that had to be eliminated, and we did not get rid of them before my time as Councilor expired.

I was dangerously ill while the last legislature met at Frankfort, and I could only have the headlines of the papers read to me, but I have found out we still have some snolocosters and sispococawas in the medical profession. It is the Councilor's business to know how to take them by the head and tail and throw them over a barbed-wire fence or drown them in the Kentucky River. The Councilors have got a big job. Don't forget to throw out the snolocosters and the sispococawas if you are called to Frankfort.

THE SECRETARY: Every member of this Association is familiar with the happenings at Frankfort during the last session of the legislature. The character of our Representatives and Senators who are sent to Frankfort is the most important matter that confronts the electorate of Kentucky. If we elect (and it is entirely immaterial for that purpose whether they are Democrats or Re-



publicans) honest, industrious, competent, unselfish members of the House and Senate who are looking solely to the welfare of the State we love, we make the most important contribution that we can make for the welfare of Kentucky and America. Your member of the House and Senate is far more important than whom you vote for for President of the United States or for United States Senator or for Congressman, because the man who is in the legislature determines the standards under which Kentucky lives and acts.

This morning, your Committee on Public Policy has exercised a privilege which it knew you would grant it, and has invited one of the members of the legislature, last year the baby of the House, a man who made more reputation in one session than any other man has ever made in one session in our House of Representatives, to come here and say a few words of the things that are in him about this State we love. It is a real privilege to present to the Kentucky State Medical Association so they will learn to love him as those of your representatives do who were in Frankfort with him last year, Hon. D. C. Jones, of Harlan, who has been kind enough to consent in his modesty to make a few remarks to us at this present time. (Applause)

HON. D. C. JONES: Mr. Chairman, Members of the medical profession: This comes not entirely as a surprise but somewhat as such. Being a professional man myself, a lawyer by profession. I think next to law you have the greatest profession in the world. Somehow I have always more or less associated with doctors. When I was a barefooted boy in a log schoolhouse, I remember the teacher used to ask us boys what we were going to be, what we were going to make in life. I used to tell the teacher every day that I was going to be a doctor, until finally one day she told me I was about the only boy in the room that hadn't changed his mind and she actually believed I was going to be doctor. But I turned out to be a lawyer, the next thing to it.

As I listen to these gentlemen discussing the advantages of the different towns in Kentucky, the railroads and the hotels and the roads and the accommodations, it reminds me of the fact that if one wanted to organize a real estate company and get these gentlemen as salesmen all over Kentucky, there wouldn't be any doubt of the success of the company.

As Dr. McCormack told you, I happened to be a member of the last legislature of Kentucky in 1924. Sometimes I say that

with apology, but nevertheless, gentlemen, that office, although it is considered very minor and very unimportant by most citizens in Kentucky unfortunately, is one of the most important in the State. There is no office in Kentucky that offers a greater opportunity for service to the State of Kentucky than that of Representative. It puts a man to a test as to whether or not he is square and clean and wants to do something for Kentucky. It gives him an opportunity to do something for the State.

There are so many cross-currents and perplexities that arise in the state legislature that you are all familiar with more or less, but not so familiar as you would be if you should be a member, that it is very difficult indeed to consider the volume of stuff that comes before one, to fathom and determine just what is to the best interest of Kentucky in every instance.

While there I had the opportunity of looking into the Kentucky State Board of Health. When some legislation was proposed there which had for its purpose, as I considered it, the disruption of the State Board of Health of Kentucky, I took occasion to find out what the medical profession in other states thought about this State Board of Health of Kentucky, and I found gentlemen, from my survey of the situation over the United States, that the Board of Health and the health laws of Kentucky were outstanding in the United States, and about the only law that Kentucky had the honor to possess that other states were seeking to copy.

In my humble way I proffered my assistance to have the masses of the people of Kentucky preserve this organization composed of men of integrity and of honor throughout this great commonwealth, devoted to a life of service to suffering and unfortunate humanity, men with ability I believe second to none in the world, and I have been to some of the best institutions in the United States, including the Mayo Clinic. I believe we have in Kentucky today some of the best physicians, some of the most conscientious doctors of any state in this Union. If I had all the money that would carry me to any physician in the world today, I have made up my mind, after visiting all of them around over the country, that I would just as soon cast my lot, and a little rather, with the physicians here in Kentucky as any place I know of. (Applause)

The legislature is an opportunity and a privilege of service. We all owe something to our community and the state in which we

live in the way of service. If I were going to pray a prayer or lift my voice in thanksgiving to God in a few words, it would be, "I thank God for the privilege of service." That is the greatest thing in the world. It is the greatest heritage that man can possibly possess, and out of service to humanity you gentlemen may engage in that work to its fullness. As you put service in your life and administer to other people, in proportion to that service real happiness and gratitude and contentment come to your own life. I know that when doctors go out to practice their profession they realize it is not only a proposition of money, it is not only a proposition of collecting material gain, but it is a field of work that they have to dedicate themselves to and be conscientiously devoted to before they can be a real success.

I don't know whether I shall go back to the legislature or not, but if I continue in it and as long as the medical profession of this State keeps itself clean, keeps itself above board and strives to relieve suffering humanity and lift itself upon a higher plane and a higher standard of life, you will find me standing there at my desk fighting for its ideals. I believe that the character of men who compose the medical profession never will let it go down, they never will look back, but their eyes will be raised, as Dr. Palmer said here yesterday, to a day when instead of supermen there will be superman-kind where knowledge will be diffused among men generally, among the profession generally, until we see the day when there will be much more enlightenment, when there will be greater harmony in the profession and there will be greater honor in the profession.

I hope that the Board of Health of Kentucky, the health laws and the hygienic laws of this State will continue to improve and that our diseases will be lessened and that the people generally will be administered to until finally the suffering of humanity will be greatly relieved throughout the world through the instrumentality of the medical profession of Kentucky. (Applause).

I thank you for this opportunity to be with you and talk with you. I am just a common, every-day man. I live up in Harlan, in the mountains.

I can't help but think of a little incident that happened in the legislature with reference to Bowling Green. We have two or three silver-tongued orators from Bowling Green who poured out their impassioned appeal for us to come to Bowling Green. They

pictured all the beautiful girls and the hotels and the nice things they would give us. Some one made a motion that we attend. I got up on the floor and said, "Gentlemen, I believe the education of the young boys and girls in Bowling Green ought to be thoroughly rounded out. They may have been to circuses and all sorts of animal shows and zoos, but before their education is complete they will have to see the menagerie of the State Legislature of Kentucky."

They all went down, had a good time, and appreciated immensely the hospitality of the Bowling Green people. I am sure that the gentlemen from Owensboro will strain themselves to the limit to give you a happy welcome down there, because after all it is just folks that we are going among with whole hearts, fellowship, and friendship that make life worth while.

I thank you very much, gentlemen, for this opportunity of being here with you. Let's keep up the fight and keep clean and keep the profession clean, for every man, no matter where he is, in his office, out on the road, or at the bedside of a patient, must be conscientious and clean as a hound's tooth in every instance.

I think of the words of Shakespeare, "To thine own self be true, and it must follow as the night the day, thou canst not then be false to any man." Take that home with you and repeat it. The more you repeat it the bigger it will get, and that will be one of the best governors that a man can have in his system, and he will find himself a better doctor and a better lawyer and a better citizen of this Commonwealth. (Applause)

**THE SECRETARY:** At the meeting of the Council held yesterday, Dr. Granville S. Hanes, of Louisville, made a donation to the Association of \$100 to be devoted to such purpose as the Council felt would be most useful for the Association. Dr. Hanes asked that the donation be made anonymously, but the Council declined to accept it as an anonymous contribution. The Council decided to offer \$100 to the County Medical Society which furnished to the Journal the best scientific papers during the year in proportion to the size of the Society. The Committee of Awards is to be composed of three editors of state journals not in Kentucky. The prize will be awarded at the next annual meeting and from now on will be an annual event, and I think it will help stimulate our Journal. We are natural race folks



in Kentucky, and it will stimulate us to even better contributions to the JOURNAL than we have had in the past.

One of these pleasures which usually comes at an annual meeting is now due. Probably excepting Texas, the only other state medical association that is in the same class with ours in the thoroughness of its organization and the completeness of the work it is doing is in our great neighboring state of Ohio. The Ohio State Medical Association, with the eagerness that all good organizations have to show for their good works, has been kind enough and thoughtful enough to elect as a fraternal delegate to this meeting one of the most distinguished of its members, an ex-president of the Association, whose probably greatest honor is that he was born in Kentucky within the jurisdiction of the Campbell-Kenton County Medical Society, and no doubt from that influence his light has so shone that he has captivated not only the State of Ohio but has made for himself and for his profession a great name.

It is a great pleasure to present to this Association my friend, our friend, Dr. Robert Carothers, of Cincinnati. I would like to move you that Dr. Carothers be made an honorary member of this Association. The motion was seconded and carried unanimously by a rising vote.

ROBERT CAROTHERS, Cincinnati: I have had many burdens to carry in my life, but I think this is one of the greatest burdens I have ever had to carry, to present myself to an audience of this kind after such an introduction as Dr. McCormack has given.

During the summer I received a letter from Dr. McCormack asking me to appoint a fraternal delegate to this meeting. He did not know that my term of office as president of the Ohio State Medical Association had expired, so I referred the letter to our present president, Dr. Follansbee, of Cleveland, with a little short note, and at the same time I made a wish (little children make wishes) that Dr. Follansbee would appoint me as the fraternal delegate. I think he sensed my wish, because he did appoint me, and here I am.

"I can't tell you how delighted I am to be with you. I am profiting every moment that I am here. I am getting ideas to carry back to our organization. I am no longer in the organization, and yet I am still in it. I have been with it for fifteen years. I was twelve years as a Councilor; I was president elect, president, and post-prandial president. We have a peculiar way of doing; we elect a man president, then hold him a year to have him

learn how to be president, then we let him be president, and then we hold him a year so his wisdom which he has acquired as president will be given to the organization.

You have in your organization one thing that is the most outstanding thing in the whole organization, and that is Dr. McCormack. I can see, as you don't see because you are on the inside, that he is the biggest thing you have. He is making not only your state organization, but he is helping you in every way medical in the State of Kentucky.

I want to tell you a little story. We have in our state a layman who acts as Secretary. Our organization got so big that we didn't have a man like Dr. McCormack to handle it. We really haven't got a doctor in the state that could do the work, so we employ a man on a salary basis as our Secretary. He has an assistant and three young ladies in his office to run the state organization. My introduction to him was connected with a very humorous story. He had just recently been married. (This is some twelve or fourteen years ago.) His wife's maiden name was Husband. They were on their wedding trip at one of the resorts on the lake in the northern part of our state, when his brother-in-law who was a traveling salesman came to the hotel and saw his sister and his brother-in-law registered. In the morning early he sent up his card with just the name Husband on it. The bell-boy took the card, looked at the name, and had a very worried mind about it. He went to the door, called to our Secretary, took him down to the end of the hall, and said, "Mister, the husband is here."

I am very proud to tell you that I was born and reared in Kentucky. I came from Campbell-Kenton County overlooking the river, and upon one occasion I was very glad that it happened that I came from Kentucky. I had been in Boston doing some post-graduate work, and with a little crowd of good fellows I was being entertained from time to time at the various clubs. I noticed that I didn't amount to much, there were other fellows in the crowd who seemed to attract more attention than I did, until casually one evening it came about in the most natural sort of way that I was from Kentucky. After that I was really the star of the crowd. It wasn't because it was I, it was because I came from Kentucky.

I am really very glad to be with you. I don't want to take up your time, because you have a very long program and a most excellent program. The papers that have been read are beautiful. That symposium on the care of the wards of the state I think was one

of the finest things I ever heard in my life. That is the one outstanding thing that I am going to carry home with me. I wish I could just move that whole thing right into the Ohio meeting. If there is anything that a state is responsible for more than anything else, it is that class of people. I believe that a great deal of the trouble that we are having today with bandits and the like, (and we are having them up our way as you have them here), has something to do with this mental condition that exists today. If there is any one thing that we medical men more than anything else have on our hands as a big job it it to work out this mental condition of the people of this day. (Applause)

**THE SECRETARY:** Dr. Sullivan is an honorary member of this Association—the only one who lives in Kentucky. He is the President of the State Crippled Children's Commission and the State Crippled Children's Society. I want him to address us for a few moments.

**DR. JOHN SULLIVAN, Covington:** Mr. President, Dr. McCormack, and members of the Society: I want to thank you for this courtesy accorded the cause of the crippled children, and I further want to thank Dr. McCormack, Dr. Barnett Owen and such others as may be responsible for the courtesy. Permit me to supplement the thanks I gave to the Association last year on the occasion of my being elected a life honorary member. I realize that Dr. McCormack is prone sometimes to pay compliments, and I thought this was one of his very nicest compliments, but I did not realize until later what an honor had been done me, and I want to in all sincerity assure you that I am deeply appreciative of such honor.

I shall not endeavor to go into detail as to the crippled child situation in the State as I did at Crab Orchard last year, for I suppose that most of you have heard of those remarks. I do want to say that for the last two years we have had in the State of Kentucky the first organized endeavor for the benefit of the crippled children. True, prior to that we had isolated cases of local attention to the crippled child problem, but as a state proposition, as a proposition that would reach to the very farthest corners of is a state proposition, is a proposition that our state and afford every child something of his birthright, we had no such organization prior to two years ago.

For two years there has been in existence an organization that has endeavored to educate the people and to spread propaganda on the crippled child problem, to the end

that our citizenship realize the plight of the crippled child, realize the need of the crippled child that its need might be supplied. How well we have succeeded in this education remains to be seen, but we have proceeded this far, that we have secured a piece of legislation, perhaps inadequate, (it certainly can be greatly improved upon) that creates a State Crippled Child Commission, of which Commission I have the pleasure of being a member. That Commission is going to see to it that there is a little more of the sunshine of life brought into the life of the crippled child.

Although the legislation was enacted, it takes means to carry legislation into effect, and our State did not supply us with the means to carry this on.

In Kentucky we care for the animals, we pride ourselves upon the breed of our live stock, so much so that we appropriate \$75,000 or more annually for the live stock. That is well. In Kentucky we care for our agriculture, our plant life; we appropriate \$50,000 annually for that, and it is good. In Kentucky we care for reforestation to the amount of \$15,000 annually. We spend hundreds of thousands for our mental and moral deficiencies, but when it comes to these crippled tots that have done nothing to justify their condition, Kentucky says, "We are so poor that we can afford only \$10,000 annually." My goodness, men, do we care less for our crippled children than for our live stock?

The bill does not say that Kentuckians are educated to caring for the crippled children. The crippled child may be brought to the attention of the county judge by the parent, the guardian, or the person having the child in charge, and that county judge in turn commits the child to the Crippled Child Commission of the State, which Commission in turn commits the child to such hospital or trained personnel as we feel is competent to handle the child.

Right here let me make one appeal to you men for your active co-operation, for without your co-operation we can get nowhere in this proposition.

In Ohio when they started this crippled child work, how many orthopedic surgeons do you suppose they had? Nine. Today they have 34. When we take these children as wards of the state we must give them nothing short of the very best that is to be had. We cannot permit any one to take any chances with one of these children. We must give them the very same class of treatment that we would give them if they were the children of the very wealthy, and we must



appeal to you men to aid us to the end that none but those thoroughly competent are permitted to handle these children. We must see to it that we have hospitals thoroughly equipped to handle them, and we must appeal to you men in that phase.

Along that line, let me say that surgery, gentlemen, and orthopedic surgery have an overlapping, but there is a special training necessary for the orthopedic surgeon. Why is there such a lack of orthopedic surgeons? Isn't it an interesting field of surgery? Surely, but the majority of men when they leave college have not a surplus of money. Perhaps they have taxed their resources to the very limit to get through, and they must get into some branch of practice that will quickly bring returns. Orthopedic surgery is slow in bringing such returns, and it is very necesasry that for a man to enter this field he must have independent income, hence the poor returns and the few entering it.

But, friends, we must see to it that this field of endeavor is made so attractive that many of our gifted young surgeons do enter it. Is this not an injustice, is this not one of the things that causes such a lack in this field of trained personnel—the fact that our orthopedic surgeons have been so generous to us in the past? They have given of their time, their skill, and not only that, but of their money to care for these unfortunate crippled children. Is it right that we permit them to do it? No, it is no more right that we permit them to assume that than it would be right for one individual of the State to care for all the crippled childhood of the State.

The crippled children problem belongs to all the State. It means raising the finances necessary to care for these children. We should see to it that the orthopedic surgeons accept a certain compensation, that the compensation for these cases be at least remunerative. We want nothing that smacks in any way of state medicine. We do not want to antagonize your organization in the least, but we do want these men to set some remunerative fee on their service, not a set fee for every operation, but we want them to stop giving us their services gratis. We want them to get enough remuneration that the young surgeon taking this up can get a livelihood and his bread and butter while he is doing it. That is the first thing I want to appeal to you for, that you men aid us in this great endeavor.

Second, we must supplement the financial needs. It takes \$1,000 to rehabilitate one of these children, that is to operate the sur-

gical end of it, the after care in the convalescent home, the months of after care, and the vocational education to put them on their feet so they become independently situated economically. Where does \$10,000 a year get you? We have 12,000 of these children in our state; \$10,000 gets us nowhere. Kentucky must raise the finances in some other manner. To that end the State Commission for Crippled Children and the Kentucky Society for Crippled Children, which organization has been largely responsible for the place in crippled child work today, have jointly employed a young lady as the executive secretary. This young lady is one of the most capable young ladies in the State, a young lady known and loved by most all of you men here because of her untiring endeavor on behalf of welfare work. I want to take just this moment to introduce the executive secretary of the State Commission, Miss Marian Williamson. (Applause)

Friends, upon the ability of this young lady we are pinning our hopes and our faith that we are going to get the sinews of war, if you please, to carry on this fight until our state legislature wakes up to the fact that we have a great need here demanding more than \$10,000 annually. May I again appeal to you that you support this young lady as she comes to your community, that you support her in every way that she may get the State organized to the end that our membership will support this proposition to the amount of \$50,000 to \$200,000 annually rather than the little, meager \$10,000 that we have.

May I be permitted a little repetition of last year's remarks for a moment to give you an idea of what we plan to do. Our Society is organized for the care and the cure, and, mind you, the education of the crippled child. To do this we propose just five things: surveys of existing conditions of the various counties as pertains to the crippled child; studies of legislative enactment pertaining thereto, and formulation of such further legislation as may be needed to meet and supply the need of these children; to aid and advance the science of orthopedics, the science of hospital management as pertains to the crippled child. Let us remember that whatever we do now is simply an emergency measure, that if we are to have a better race in the future we must prevent these conditions that cause such tragedies as we witness. Fourth, we must standardize the mode of procedure that the crippled child in the remote section of the State has the same opportunity as the child in Louisville,

to the end that they may have available medical, surgical and educational facilities. Fifth, we must establish under existing educational bodies special schools for crippled children that they may get their vocational and academic training.

There has been a text that I have used; it has been my text for all my little sermonettes on crippled child work. "The human sympathy for human need is the index of civilization." It rests upon you men more than any other one body of men whether human sympathy meets and supplies human need. It rests upon you men whether the civilization of Kentucky measures up to what civilization should be. It rests upon you men whether our civilization of Kentucky can be merely a veneer or be in fact. Apathy is the greatest obstacle in the way of human sympathy meeting and supplying human need. Apathy, indifference, and selfishness are destructive of and quickly undermine those influences for good that tend to make men wiser and better. Let us recognize and dare to assume those responsibilities that devolve upon us, to the end that the crippled child of our State may have its birthright.

VICE-PRESIDENT: Dr. J. A. Stucky asks for a few minutes.

J. A. STUCKY: I won't take much time, but I want to call to the attention of every doctor in the State of Kentucky the most valuable and most sacred asset of the medical profession of Kentucky. We are finding the most valuable medical library in the world at Transylvania; 9,000 volumes are there in a building that is not fireproof. Some of these books were purchased by Dr. Charles Caldwell a century ago. They were hidden away during the Civil War and almost forgotten, and during the past few years only they have been put on shelves and word of their value has stirred the hearts of the famous medical men all over the world.

Transcriptions, dedications and rare bindings of these volumes are most interesting. Two years ago, Dr. B. F. Dains, representing the Foundation for Historical Research in Chemistry, was sent by that Foundation to visit all colleges in America. When he got to Transylvania, he said, "I find books here that I have read of but never seen. I find others that I have ordered from Europe but have never been able to get. Such a library is invaluable for historical research."

Dr. Luther Weigle of Yale said, "I must confess Transylvania has treasures which Yale has not."

Dr. Frederick T. Lewis, of the Harvard Medical School has written to ask whether the Transylvania books might be loaned their library in case of need.

Dr. Edward C. Kirk, Dean of the school of dentistry of the University of Pennsylvania, has written, "Your reference to this medical collection is like suddenly placing before me an open gold mine."

Again, Dr. A. B. Luebhardt, of the Department of Physiology of the University of Chicago, wrote, "I have a small collection of my own, more than the University of Chicago can boast, but it is scarcely worthy of mention compared with this wonderful collection."

Dr. Lyman Powell, of the Grinnell Movement, New York City, said, "It is most incredible that such a collection should have been brought together anywhere, and my admiration for Transylvania is enhanced by this new evidence of her significance."

A few weeks ago I was appointed Chairman of a Committee to look into some old junk, they called it, hidden away in the cellar. On that Committee were Dr. Dan J. Healey, Dr. W. D. Funkhouser, Dr. Alfred Peter, Dr. J. W. Scott, Dr. Chas. A. Vance, and Judge Lyman Chalkley. When you hear of what those men found when they put on their overalls and went down into the cellar and up into the attic and dug out that "junk", you will be prouder than ever of the possessions of Kentucky in old Transylvania, and it is my desire that every doctor here make himself a committee of one to arouse the people that we may protect, preserve and keep in the heart of Kentucky the old Transylvania library where medical history in the United States was born. (Applause)

VICE-PRESIDENT DOWDEN: The Chair will now ask for a report of the Special Committee on Resolutions upon the death of Dr. Aud.

J. W. KINCAID, Catlettsburg: "An all-wise Providence has invaded our membership and taken unto Himself one of our most beloved and useful members in the person of Dr. C. Z. Aud, who died on July 15th, and whereas he had been a Councilor of this Association continuously since its reorganization, except for the term which he served as its President, in both of which positions he labored and served untiringly and successfully for the betterment and advancement of the profession he loved so dearly, both along material and scientific lines, be it

"RESOLVED, That this Association recognizes the great loss which it has sustained



in his passing, and we not only shall miss his helpful and constructive advice in meeting the problems with which we have to deal, but his cheery and genial personality which had so endeared him to all of our members;

"RESOLVED, That we extend our heartfelt sympathy to all the members of his family in their sorrow, and assure them that we shall always hold his memory in sacred reverence;

"RESOLVED, That these resolutions shall be spread on the minutes of our Association and a copy be sent to the bereaved family."

G. A. HENDON, Louisville offered the following resolution:

Be it resolved that in the recent death of Dr. L. S. McMurtry the State and Nation suffered an irreparable loss. That his distinguished and brilliant career lent dignity and force to the National Association of which he was presiding officer, shed fame and luster upon our own State and supplied a never ending source of pride and emulation to our membership. That our deepest regrets and sincerest sympathy be extended to his bereaved Daughter together with assurance of the love, loyalty, and devotion of the Kentucky State Medical Association.

George Albert Hendon,  
Granville S. Hanes,  
Joseph A. Sweeny,  
Irvin Abell,  
S. C. McCoy.

Upon motion of Dr. George A. Hendon, of Louisville, seconded by several members, Miss Marie Louise McMurtry, the daughter of the late Dr. Lewis S. McMurtry, was unanimously elected an honorary life member of the Association.

#### REPORT OF COMMITTEE ON IRVINE ESTATE

At a meeting of the Committee designated by the Kentucky State Medical Association to look after the devise made to the Association by Mrs. William M. Irvine, the meeting being held at the office of J. J. Greenleaf in Richmond, Kentucky, on July 10, 1924, and there being present Drs. Hume and Dunn of Richmond, and Dr. Kinnaird of Lancaster, the following occurred:

It was explained by the attorney that with the establishment of the will of Mrs. Irvine at the May term, 1924 of the Madison Circuit Court, and with a recent decision of the Supreme Court of Missouri in regard to the effect of the will on property owned in Missouri, that the Medical Association's status in the case at the present time is as follows:

1. That by formal notice to the executor shortly after the probate of the will, and by a pleading filed in the action in the Madison Circuit Court in October, 1922, he has already accepted the devise on behalf of the Medical Association.

2. That the decision of the Missouri Court makes it possible to probate Mrs. Irvine's will as to personal property, and that the \$2,000.00 annuity given by the will may under that decision be obtained by the Association if it can establish that the annuity is personal property rather than real estate.

3. That since the decision of the will contest in Kentucky, the time has arrived for the Association to defend the attack on its right to take the property in Kentucky made upon it in a pleading filed by William I. Greenway.

The attorney accordingly suggested that he desired immediate authority from the Committee to proceed as follows:

1. To employ a competent attorney in Kansas City, Mo., and in conjunction with him to take immediate steps to establish the will as to personalty in Missouri, and to litigate if necessary, the question before the Missouri Court to establish whether or not the annuity is personalty or realty.

2. To proceed to litigate to a conclusion beginning with the October term 1924 of the Madison Circuit Court, the contest raised against the Association by William I. Greenway.

The attorney advised that it was not necessary until further advised by him to take any other steps towards reducing Irvinton to possession by the Association, nor to take any other steps to obtain back rentals or accrued annuity until further advised by him, the custodians of these funds being bonded and the funds being available at such time as the other rights be established.

The Committee assembled resolves unanimously and so reports, that it approved the suggestions of the attorney and directs him once according to such suggestions.

in so far as it is authorized to proceed at

O. F. Hume, Committee.

SECRETARY McCORMACK: I move the adoption of that report by a rising vote. Seconded and carried.

The secretary awarded the golf prizes to Philip Barbour, Gaylord C. Hall, Julian Estill, Hal Neel and F. A. Stine.

THE SECRETARY: I move that the remaining Committee reports be filed and incorporated in the minutes, and that the usual accounts for the meeting which have been approved by the Council be allowed.

The motion was seconded and carried.

Upon motion regularly made, seconded, and carried, the House of Delegates adjourned sine die at nine-forty-five a.m.

At the meeting at the Elks' Club Wednesday Evening September 24th, at which Dr. W. D. Haggard spoke on "The Problem of the Physician's Relationship to the Public," Dr. Haggard was unanimously elected as an honorary life member of the Kentucky State Medical Association, upon motion regularly made, seconded, and carried.

A. T. McCormack, Secretary.

## ORIGINAL ARTICLES

### HEART DISEASE IN CHILDREN.\*

By EMMET F. HORINE, Louisville.

Heart disease in children is a subject which must immediately challenge our attention. In the first place its study gives us an opportunity to investigate adult heart disease in its incipency. Secondly such study reveals that heart disease in the early stages is preventable. In addition it introduces us to a study of a new group of cases, namely those with potential cardiac disease.

Primarily it is my purpose to discuss the various infectious diseases which may lead to permanent damage to the heart. In this discussion possible preventive measures will be considered particularly. Congenital heart disease will not be discussed because the theme and purpose of our study is to deal with those forms of heart disease in childhood which may be considered partly or largely preventable.

Acquired cardiac disease is rarely seen under six years of age. But it is in this age group that many conditions exist which may in after life lead to actual heart disease. The prime factor in prevention is the education of parents to the value of routine examination of children during the pre-school age. At this time diseased tonsils, adenoids, malnutrition may be discovered and corrected, these conditions being often the fore-runners of acute rheumatism.

Statistics show that the incidence of heart disease in children is approximately twice as great at fourteen years of age as it is at seven. It will be seen that from seven to fourteen is the school age, the time when such diseases as scarlet fever, diphtheria, tonsillitis, chorea,

acute rheumatic fever are most prevalent. It behooves us, therefore, to prevent these diseases in every possible way.

"Rheumatism" in some form is the chief cause for diseases of the heart in children. Just here let me call attention to the fact that acute rheumatic fever may be present without any joint symptoms being evident. So called "growing pains," sub-cutaneous nodules, a purpuric eruption or erythema multiforme may be the only manifestation of the acute rheumatic fever. In childhood acute rheumatism is far more likely to be atypical than typical. In the majority of cases the primary attack of rheumatism rarely is followed by organic change in the heart. Naturally with each recurrence, and as every one knows recurrences are frequent, the likelihood of heart involvement becomes greater.

Beside acute rheumatism itself there are several other diseases which can be placed in the rheumatic group. Tonsillitis deserves first place here and it as a fore runner of acute rheumatism is sufficiently well recognized to necessitate little discussion. Further in this group there should be placed scarlet fever and chorea. Of the conditions within the rheumatic group, chorea is most likely to be accompanied by an acute endocarditis. Graves and Paige (1) have reported an extremely interesting case of chorea showing this connection and reference to this report will amply repay anyone who desires to investigate the subject further.

Divergence of opinion permeates the literature concerning whether or not diphtheria causes an actual inflammation of the heart. The majority of observers have reported definite myocardial changes in most cases coming to autopsy while Loth (2) in a recent study claims that actual inflammation is only exceptionally found. Regardless of this controversial point it is certainly true that in diphtheria circulatory failure frequently occurs. Also severe toxic effects may be observed which will be referred to later. Personally I am a great believer in prevention and for that reason I advise immunization of all children from six months to six years of age with diphtheria toxin-antitoxin. For older children the Schick test is suggested and toxin-antitoxin given if the individual is not immune.

Two authors namely, S. C. Smith (3) and Siegel (4) have recently called attention to the frequency of measles as a possible etiological factor in heart disease. Smith found a history of measles in 52.6 of his cases and Siegel in 61.6 per cent. On the other hand Halsey (5) found a history of measles in 36

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 18, 19, 20, 1923.



per cent of cardiacs as compared to 58 per cent of healthy children. Until this question is settled with measles I feel we should at least be on guard and exercise extreme care in seeing that the child is kept quiet until after the process has entirely disappeared.

Unfortunately there are no signs which are definitely diagnostic of heart involvement in the course of the above mentioned conditions. However, fever irregular in type accompanied by precordial pain and tachycardia should be sufficient grounds for making a diagnosis of an acute process within the heart. To await the development of murmurs or of a to and fro friction sound before making a diagnosis would be waiting for signs that ordinarily appear much later if at all. The vagueness, at times, of the early symptoms referable to invasion of the heart make it necessary to pay very close attention to this organ during the course of all acute infections.

In so far as the part of the heart involved there may be an inflammatory reaction in the endocardium, myocardium or pericardium or in all three. To my mind it is inconceivable that we may have a distinct endocarditis without having at the same time some involvement, though slight at times, of the myocardium and pericardium. For this reason the term carditis as used by the English would seem the preferable one when speaking of an acute inflammatory condition in the heart.

In the treatment of an acute carditis the most important factor is absolute and prolonged rest in bed. The ice-bag, with patients who will permit its use, will be found of value in slowing the heart's action and in relieving precordial pain if present. Many of these little patients are sleepless and a hypnotic, preferably elixir paraldehyde should be given. Some may require an opiate and I would not hesitate to use it if the indications were urgent. As an agent to arrest the acute process, I have seen sodium cacodylate act favorably in a few cases, when given daily by hypo. In acute carditis digitalis is, in my opinion, of very doubtful value.

Following an acute carditis not all hearts are permanently damaged. Prolonged rest in bed will help to reduce the number of patients who suffer permanent damage. It is well to point out the fact that it is impossible to determine how much actual damage has been done immediately after the acute process has subsided. Due to the slow contraction of the valve segments a stenosis or insufficiency may show up a year or more afterward.

Of the valve lesions to be most dreaded mitral stenosis of probably stands first. At times the diagnosis of mitral stenosis taxes our diagnostic acumen markedly because of the evanescence of the murmur in the early stages. (As has been remarked elsewhere probably more errors are made and more cases overlooked of mitral stenosis than of any other valve lesion. With a definite presystolic thrill occurring at the maximal impulse together with a presystolic murmur and snappy first sound the diagnosis is easy. Add to these signs an accentuated second pulmonic sound and cardiac enlargement then the diagnosis is certain. However, in many early cases the murmur is not constantly present and, if so, it may be scarcely audible. It is well to have the patient exercise moderately and then immediately assume the recumbent posture lying slightly on the left side. The exercise increases the force of the cardiac contractions and lying on the left side throws the heart itself closer to the stethoscope and even faint presystolic murmurs are clearly brought out. Electrocardiograms will furnish additional aid in difficult cases in that an abnormally high or wide "P" wave with or without notching indicates auricular hypertrophy and constitutes reliable evidence of mitral stenosis. In such cases electrocardiograms will also frequently show right axis deviation which is additional evidence.

Systolic murmurs at the maximal impulse or over the base have little significance unless accompanied by other signs such as definite cardiac enlargement and an actual purring systolic thrill. A systolic murmur calls for a careful investigation of the subject but, of itself and alone, it is not reliable evidence of an organic heart lesion. Examinations of healthy adults will show a fairly large percentage presenting systolic endocardial murmurs of some type and the percentage is much higher in children. Major T. D. Coleman and I (6) found in an analysis of 13,896 men examined by our boards that eight per cent presented systolic murmurs. Luetheje, Beyer, Gerhardt and other observers have found murmurs in school children in percentages ranging from twenty-seven to fifty-six or even seventy-two per cent. It is highly probable that the majority of murmurs found in young people are really functional and due to relaxation of the orifices or other non-organic changes brought on by exercise or excitement. Certainly we cannot label a child, in whom a systolic murmur is heard, as afflicted with organic heart disease unless considerable additional evidence is found. In the diagnosis of heart disease and espe-

cially so in children, the current belief that a systolic heart murmur means a diseased valve must be stamped as decidedly erroneous.

All of the heart irregularities may be found in children but with the exception of sinus arrhythmia none are frequently encountered. Sinus irregularity, though entirely physiological, has caused confusion in the minds of some leading to an erroneous diagnosis of heart disease. In sinus arrhythmia there is a slowing of the heart rate at intervals followed by a quickening and the varying length of the pauses may be quite noticeable. The irregularity is the result of the inhibitory action of the vagus and can be decidedly accentuated by having the patient breathe deeply and regularly. With inspiration vagal influences are diminished and the heart beats more rapidly while with expiration vagus activity is increased and the heart beats more slowly.

Of the other irregularities, premature contractions (extrasystoles) are more often encountered though they are relatively rare. I have seen a few children exhibiting this type of irregularity, two of the cases being traced to foci of infection in the throat and a third gave a history of having had diphtheria one year prior to my examination. The presence of premature contractions in children should call for a thorough examination in order to see if any focus of infection exists.

Both auricular flutter and fibrillation are extremely rare in young people. For a diagnosis of flutter electrocardiograms are necessary though a rapid pulse rate of 150 or over which showed no variation with change of posture would be strongly suggestive. Auricular fibrillation should be easily diagnosed clinically because of the absolutely irregular heart action. In order to clinically differentiate auricular fibrillation from frequent premature contractions have the patient take sufficient exercise to increase the heart rate twenty or thirty beats when with fibrillation the irregularity will continue whereas with the premature contractions there will be usually a complete disappearance of the irregularity. It would seem unnecessary to mention the fact that digitalis is the drug which will give wonderful results in both flutter and fibrillation. Quinidine may be used in carefully selected cases but at present its routine use is not advised.

Heart-block of varying degree has been reported in many cases of diphtheria. Diphtheria toxin produces a direct vagal neuritis which results in irritation with consequent

vagal stimulation and a tendency to blocking. Attention should be directed to the fact that digitalis stimulates the vagus center itself thus producing an effect quite similar to that of diphtheria toxin. It is for this reason that the use of digitalis is so dangerous in diphtheria as pointed out by McCulloch (7). Block in diphtheria may also occur as a result of an acute inflammation of the heart muscle and of the bundle of His as reported by Fleming and Kennedy (8) and other observers.

St. Lawrence (9) deserves much credit for calling our attention to a large group of patients classed as potential cardiac cases. This group includes all patients who have a history of any rheumatic manifestation but who, as yet, present no evidence of heart disease. Specifically any patient giving a history of acute rheumatic fever, torticollis, constantly recurring bone and joint pains, frequent attacks of severe tonsillitis or pharyngitis or chorea would be placed in this group. Patients in this group are those for whom much can be done in preventing later heart involvement. The plan with the potential cardiac case is to first eradicate all foci of infection whether in the tonsils, adenoids, teeth or elsewhere. Then through general supervision with attention to diet and open-air exercise resistance to infection can be increased.

The prognosis of heart disease in children is, as a whole, much brighter than in adult life. Some seem to think that the mere diagnosis of heart disease spells the end. This is decidedly erroneous in the average adult case and still more erroneous in so far as children are concerned. Each case must be studied carefully and individually. A diagnosis can then be made which should be three-fold as pointed out by White and Myers (10). This triple diagnosis should include the etiology, anatomical structures involved and finally the functional condition and capacity. Such a diagnosis does not complicate matters as would perhaps appear. The etiological diagnosis is of value for two main reasons, namely, as an aid in prognosis and as a factor in the prevention of heart disease. The functional diagnosis is of great importance because by determining the exercise tolerance of the individual his limitations are defined and proper instruction in regard to physical exercise will follow. Restrictions are often necessary but as much physical exercise as possible should be allowed because of its value in improving the tone of the heart muscle.

There remains yet to be discussed the treatment of the cardiac child, the one with actual



disease of the heart. The first thing to be done is to attempt to prevent any further damage to the heart. Examine carefully and eradicate all foci of infection. Particularly should diseased tonsils, adenoids, sinuses and abscessed teeth be attended to. The careful study of St. Lawrence (9) proves conclusively that the removal of tonsils and adenoids markedly lessens recurrences of acute rheumatic fever. Children with heart disease will stand the operation nicely provided decompensation is not present and then the operation should of course be delayed. The cardiac case in whom tonsillectomy is done should be kept in bed for at least one week after the operation.

The majority of cardiac children will be found anemic and undernourished. We cannot expect improvement in the heart condition so long as this is allowed to continue. Bland's pill or the syrup of the iodide of iron will be found of value. Younger children will take the latter preparation more readily and it can be given in doses from ten to forty minims three times daily. Permit a plentiful and nutritious diet and as the general bodily nutrition improves so will the heart condition. The diet should be so regulated that any tendency to constipation is overcome. If constipation persists use the milder laxatives.

A moderate amount of daily open air exercise is an extremely important item in the treatment of the cardiac cripple. No hard and fast rules can be given as to the amount of exercise advisable because each case is a law unto itself. However, "it is quite safe to say that if the exercise leads to noticeable dyspnoea it is too strenuous. Particularly should the patient be encouraged to take daily "sun baths" wearing a minimum of clothes. Do not permit absolute rest except during periods of decompensation and then see that it is absolute.

The cardiac child should be carefully advised with reference to the selection of an occupation. A vocation should be selected which is entirely suitable to his apparent functional capacity. There is absolutely no reason why a cardiac case should not be entirely self supporting upon reaching adult life. Watch-making, engraving, stenographic work, book-keeping, time-keeping and innumerable other occupations are open. I am rather optimistic concerning the possibility of arresting the heart condition in children.

As to the number of children of school age with actual heart disease, Halsey (5) found one-half of one per cent in 44,000 children. Holt's estimate is higher, being two per cent.

Certainly the exact figure lies between these estimates and would mean that of 835,509 of school age in Kentucky between 4,177 and 16,710 of them have some form of organic heart disease. But whether 4,000 or 10,000 or 16,000 children have heart disease today in Kentucky they have it as a result of diseases belonging at least partly within the preventable group. If we, in every possible way, attempt to get the fact before the people of Kentucky that their children should be examined before the school age as well as during the school age to determine whether they have potential heart disease great good will result.

#### REFERENCES

- (1) Graves, Stuart and Paige: Etiology of Chorea, New York Med. Jr. 109:265, Feb. 15, 1919.
- (2) Loth, Mathilde: The Heart in Diphtheria, Arch. Int. Med. 31:637, May 15, 1923.
- (3) Smith, S. C.: Cardiovascular Examinations. Jour. A. M. A. 70:911, March 30, 1918.
- (4) Seigel, A. E.: Role of Acute Infectious and Contagious Diseases in Children in Etiology of Cardiovascular Disease in Adult, Arch. Pediat. 39:314, May, 1922.
- (5) Halsey, R. H.: Heart Disease among School Children: Proceedings 30th Congress, American School Hygiene Assn., New York City, November 16, 1921.
- (6) Coleman, T. D. and Horine, E. F.: Clinical Significance of Cardiac Murmurs. The Medical Clinics of North America, 2:621, Sept., 1918.
- (7) McCulloch, H.: Effect of Diphtheria on Heart, Amer. Jr. Dis. Children, 20:89, August, 1920.
- (8) Fleming and Kennedy: Case of Complete Heart-block in Diphtheria, 2:77, November, 1910.
- (9) St. Lawrence, William: Clinical Classification of Cardiac Disease, Arch. Pediat., 34:308, 1917.
- (10) White, Paul D. and Myers, M. M.: Classification of Cardiac Diagnosis, Jr. A. M. A., 77:14144, Oct. 29, 1921.

#### DISCUSSION.

**J. H. Pritchett, Louisville:** There is one other phase that I want to bring before you, and that is after the acute conditions have worn off, the patient discharged or leaving the hospital, as we find so often is true in our isolation ward at Louisville City Hospital, what next? They are still cardiac cases. To continue the discussion of one of the speakers, in New York in this same survey these same children were referred to cardiac clinics. At this time there was suggested by Lawrence, Bach and Halsey, a clinic or a school which they called the segregation school; in other words, all heart cases were sent there for schooling. They found the following factors of much importance. First of all, these children attended school much more regularly and lost very few days compared to the child in the home; second, they gained in weight, they gained in strength; third, there was an actual improvement in the cardiac muscle itself. In other words, I think these cases should be followed up after their illness and not turned loose and allowed to get out from under the doctor's care. Unless the foci of infection are removed there will be frequent acute attacks. I think that the inspection of all schools brings

out the fact of these latent cardiac conditions, and if they are under the doctor's care constantly we can be of much benefit to them.

One other factor. The child should not be discouraged by the doctor or the mother or the teacher saying, "Don't do this, don't do that because you have a bad heart." That gives the child the impression that he is in much danger and he is reduced in his amount of exercise, whereas we know that exercise to the point of tolerance in these heart cases is of wonderful help. Proper clothing, proper food, proper supervision by the family, by the teacher, and last of all constant supervision by the doctor will in many cases see these children safely through.

### SOME DISEASES OF THE EYE WHICH ARE OF INTEREST TO EVERY PHYSICIAN.\*

By T. L. BAILEY, Madisonville.

The older men who specialize in the various branches of medicine and who have its best interest at heart, all admit the close relationship of any special branch of medicine, especially that of the eye to general medicine, yet many allow the practice of their specialty to dominate them completely, to the exclusion of many things that broaden and tend to make them better physicians. This is sure to invite professional deterioration. I think the same rule applies to a great many men in general practice; who while busy with measles, mumps, pneumonia, etc., lose sight of the fact, that we have eyes that often cause trouble and when faced with an eye condition, that requires quick judgment, throw up their hands in despair and prescribe something that is in exact contraindication to the condition present. I do know a few men, not many, who prescribe atropine for practically every eye disease they see, which in some diseases and especially glaucoma does much harm. It is not possible to make specialists of every man in the practice, but there are a few things the general man should know about the eye and know well the same as he does about pneumonia, fractures, measles and the mumps.

I am indebted to my friend, Dr. A. O. Pfingst, for many suggestions. He was to present this subject, but on account of illness was unable to do so. Twenty questionnaires were mailed to as many physicians, ten in general practice and ten specialists, requesting them to name five eye diseases of common

interest, in the order of their importance. Thirteen replies were received and in presenting the different conditions, will discuss first the things that seemed more important to the men answering the questionnaires.

First. Trachoma, old as Egypt, rampant in Kentucky and scattered over other sections of the U. S. A. seemed to have the lead. I had the privilege a few years ago, of making a survey in Muhlenberg County and with the assistance of a very capable county nurse found unquestionably over a thousand cases of trachoma, not folliculosis mind you, but trachoma, for many were advanced cases, not affecting a few in one family, but several generations of the same family, presenting every possible complication and sequelae from Entropion, Trichiasis, Pannus, down to blindness. As a result of this report Dr. McMullen held a clinic at Greenville, seeing nearly 400 of these victims and soon afterwards established a hospital that has since done an everlasting service. Trachoma, untreated, lasts practically a life time, impairs vision, and possible blindness, that often renders the victims public charges on the state. It is not always easy to diagnose, but whether folliculosis or trachoma the treatment is the same. In the former you render a cure immediately, without harm to the patient and in the latter you push him far forward on the road to recovery. Every man here should seek an opportunity to attend one of these clinics and witness the work. There are a few who claim we do not have much trachoma in Kentucky, but they can be convinced easily, by attending some of the clinics, held under the supervision of the State Board of Health or of the U. S. Public Health Service. The control of trachoma like malaria is one of education. Teach the people to discontinue their time honored custom of the common towel, wash basin, etc., and the "red sore eye" will pass into oblivion.

Conjunctivitis, glaucoma, iritis or iridocyclitis held next honor in the questionnaires answered and will be discussed under one head, for here the important question of differential diagnosis arises and must be made before intelligent treatment can be instituted. I will note the few salient points of acute conjunctival infection in order that it may be differentiated from the two other conditions named above. This should present no difficulty. Redness, more marked on the palpebral conjunctiva, fading gradually as the conjunctiva approaches the sclero-corneal junction. Discharge varying from mucoid in appearance to thick yellow pus. If the latter is profuse and the eye highly inflamed, with chemosis of

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.



the conjunctiva, a gonorrheal infection should be suspected and a smear examined microscopically to determine the presence of the gonococcus. If present and the infection is confined to one eye a Bueller shield should immediately be placed over the well eye and energetic treatment at once instituted. Frequent cleansing with antiseptic solution as often as necessary to keep the eye free from discharge, with daily applications of two per cent silver nitrate to the everted lids and either twenty-five per cent solution Argyrol or a two per cent solution mercuriochrome every few hours dropped in the eye. The danger of corneal ulceration should be kept constantly in mind and met with appropriate treatment when it occurs.

Conjunctival infections incident to birth would be rare indeed if every physician would follow the law to the letter by instilling silver solution in the eye of every new born babe.

Phlyctenular conjunctivitis occurs chiefly in children of a strumous diathesis. They have marked pain, photophobia, lacrimation, and blepharospasm, avoiding the light and will even bury their heads in a pillow or hide in a dark corner. Examination is difficult. The phlyctenular ulcers usually appear at the sclero corneal junction. Eczema and blepharitis marginalis are often present. Constitutional treatment is indicated and locally atropine and yellow oxide of mercury ointment.

It might be supposed that diseases as unlike as Iritis and Glaucoma should not be confounded, but it often occurs that the practitioner considers a case of acute inflammatory Glaucoma to be Iritis and treats the Glaucoma with Atropine, the worst possible treatment. I don't think it should ever be in the general man's domain to treat a case of Glaucoma, but there is not a man practicing, when confronted with a patient usually past middle age, suffering severe headaches, with a dilated or semidilated pupil, shallow anterior chamber, greenish pupillary reflex, deep circum-corneal redness, a steamy anaesthetic cornea, dimness of vision, occasionally nausea and vomiting, marked increase in intraocular tension, but who should be able to recognize it as possibly acute glaucoma. It is not in his domain to record tone metric readings, but he should be able to take the intraocular tension by palpation, with the tips of his fingers and determine if the tension is somewhat increased. I have seen men attempt to take the tension by pressing on the eye with the tip of one finger only. Palpation should be done alternately with the tips of the forefingers of each hand and compare

the tension of the eye with its fellow and if necessary take the tension of his own eye for comparison. As soon as the diagnosis of glaucoma is made start the patient to a specialist and if he be far distant give him a solution of eserine or pilocarpin to instil while on his way.

Iritis or Iridocyclitis occurs usually in people under forty-five years of age, lacrimation and photophobia marked, severe pain, pupil small does not react to light, iris discolored, sometimes hypopyon or pus in the lower portion of the anterior chamber, circumcorneal redness; no increase, usually, in intraocular tension. Instillation of atropine will dilate the pupil irregularly on account of adhesion between the iris and anterior lens capsule. The cause of iritis is usually one of three things, syphilis, trauma, and focal infection. The former being the cause of thirty-five per cent of the cases, being an early symptom of the secondary stage. The history of lues should be questioned. I make it a rule to have a blood Wassermann made in all cases of iritis that come to my office.

I instil atropine in sufficient strength to dilate the pupil, to prevent posterior synechia and institute a search for the foci of infection. If the teeth and gums appear suspicious and the X-ray shows apical abscesses, the teeth are extracted. The tonsils and sinuses are next attacked and if found diseased are dealt with accordingly. Other possible foci of infection as discharging ears, gonorrhea, chronic appendicitis, cholecystitis should receive appropriate treatment. Traumatic iritis may be caused by punctured wound of the globe or by blows upon the eye without rupture of any of its membranes. It is always good practice to instill Atropine in the injured eye to prevent such a complication.

Foreign bodies in the eye, especially foreign bodies imbedded in the cornea, come to all of you. They should be removed with the least possible trauma to the surrounding tissue. The eye should always be anaesthetized with cocaine and work done under good illumination. It is not uncommon to see corneal ulcers follow such trauma and no doubt many of you have seen eyes lost from what seemed in the beginning a very trivial thing. The majority of small ulcers heal quickly, but if after twenty-four hours the ulcer is seen to spread or the infection infiltrate the deeper layers of the cornea, more energetic treatment should be instituted without delay, such as scraping gently the surface of the ulcer touching its base with iodine or carbolic, followed with Alcohol or the actual cautery if necessary.

If the sclera or cornea are perforated by any flying foreign substance, with or without intra ocular hemorrhage, with or without impairment of vision, an intraocular foreign body should be suspected and an X-ray taken to determine its presence, for in competent hands substance of a magnetic nature are often removed successfully, without much impairment of vision. It is necessary of course to localize the foreign body with the X-ray, for only a few days ago a man presented himself, saying he was struck in the right eye with a chip of steel, flying from the head of a hammer. The wound of entrance was in the sclera about two m. m. from the sclerocorneal junction, on the temporal side. The X-ray showed the foreign body had passed entirely through the eye and was in the orbit to the temporal side of the nerve. I don't know the outcome, for this man is still under observation.

Sympathetic ophthalmia should be kept constantly in mind when there is a severe injury in the region of the ciliary body and enucleation of the injured eye is usually indicated, when its fellow shows undue irritation.

I don't think it would be amiss in this paper to give briefly the relation of the eye to some general diseases, for in the latter ocular symptoms are manifest and often the first to appear. In diabetes we have cataract, retinitis, and retinal hemorrhages. In nephritis we have retinitis and retinal hemorrhages.

I know of one instance where a man had the diagnosis of cataracts made and told to return in a few months for operation. Before the time elapsed he had occasion to consult his family physician, who found his urine loaded with albumen. The man did not have cataracts as supposed, but albuminuric retinitis and in a short time succumbed to nephritis.

The eye involvement of toxemia of pregnancy is well known to all of you and it is sufficient to say that the urine of every patient, that comes to you complaining of failing vision, should be examined.

Recently a lady was referred to me for cataract extraction. She had a cataract all right and when the urine was examined she had four per cent sugar, I will say here she was referred to one of my associates, who gave her insulin. I later removed the cataract with good results.

Often the first symptom of brain tumor is evidenced by ocular symptoms. I saw a little girl last fall with a paralysis of left external rectus muscle, inward rotation of left eye about fifteen degrees, complaining of diplopia, otherwise seemed well. No other symp-

toms appeared for three months when she had dizziness, projectile vomiting, partial paresis of right arm and leg, disturbance of thermal sense, disturbance of sense of taste, later a paralysis of all extrinsic muscles of left eye, marked nystagmus. A diagnosis of cerebello pontile angle tumor was made.

Post-mortem was not allowed. Abscesses of the brain and meningitis will often present the same chain of symptoms.

Sudden blindness with vomiting and abdominal pain should in these good old days of prohibition with "moonshine" running freely, arouse suspicion of methyl alcohol poisoning.

Diseases of the nasal accessory sinuses are often responsible for many ocular manifestations, among which are orbital cellulitis, with exophthalmos, paralysis of ocular muscles and reduction of vision. Ocular symptoms are frequently the first noticed in *tabes dorsalis* too well known for any lengthy discussion.

I have by no means covered the subject thoroughly, but have tried to select the most usual things met with in the general practice of medicine.

## DISCUSSION.

**J. T. Reddick, Paducah:** I want to commend Dr. Bailey's paper in its entirety. He has given us so many good points of value, but I want to emphasize by a recent observation of mine the importance of the prophylactic solution in the eye, and also the importance of some work that is being done now in the state in child health clinics. It has been my opportunity and pleasure to serve for a few months in the Health Clinics in Paducah.

Just a few weeks ago I caught a severe case in that Health Clinic of ophthalmia neonatorum and had the nurse follow up the case go to the home of the child and follow it through, and it was ascertained that the solution had not been used in that case. We immediately sent the child to a specialist and saved the eyes of the child.

**Curran Pope, Louisville:** We have heard a good deal about what the general practitioner should do when the case comes to him with acute troubles. I want to speak on the other side, that is when the case comes to him presenting neural or psychiatric or internal medical conditions. I consider that there is probably no greater diagnostic field in neurology, psychiatry and internal medicine than the eye. I think I can truthfully say that in the last ten years there has never been a patient come before me that I have not given the eye a very careful and thorough examination both as to the pupil, mus-



cular movements, ophthalmoscopically and otherwise.

I would like to call the attention of the profession to the fact that we must not narrow our vision to the mere consideration of acute conditions, for in many chronic conditions we can find very valuable information by investigation of the eye. For example, thirty-five to forty per cent of syphilitic conditions can be diagnosed practically from the eye, and without this we handicap ourselves in making the correct interpretation of the condition present.

I cast no reflection when I say that I believe there are comparatively few men that will prepare themselves and take the trouble to make and clearly understand how to do the ordinary test for even such a simple thing as a pupillary response. It takes practice, it takes experience, it takes some little knowledge to interpret it, but we know that when once you do utilize it, you will gain a great deal of help from the examination.

**T. L. Bailey, Madisonville, (closing):** In regard to the remarks that were made with respect to foreign bodies in the cornea, I live in a coal field in Western Kentucky where they employ many men in the mines. They are constantly getting foreign bodies imbedded in the cornea. There is usually one or two men around a coal mine who carry an especially sharp knife to remove foreign bodies. I spend a good deal of time in telling the men who come to see me not to let these would-be experts dig at their eye. I have seen them with the whole surface of the cornea scratched like a chicken had been walking around it. Of course that kind of an eye is very liable to infection and possible loss from ulceration and perforation.

## ACUTE INFECTIVE OSTEOMYELITIS.\*

By P. H. STEWART, Paducah.

A review of the literature on this subject would force one to the conclusion that an early and accurate diagnosis should be easily made in every case, but the experience and observation of one who has been engaged in the practice for more than thirty years, having had a fair patronage and a reasonable experience, and having enjoyed a measurable amount of referred work is, that he has seldom had the opportunity of witnessing a case in which the diagnosis was early made and the proper treatment promptly instituted. This statement is not intended, nor can it be construed as a reflection or criticism against the general practitioner, because frequently the patient is not seen by him until after irreparable damage has been inflicted, but I am convinced that we have all gone sadly astray in these cases, simply because we have not gotten careful and accurate histories, have not studied our cases and have not properly interpreted our symptoms and findings.

In order to emphasize and direct attention later to some of the symptoms, it will be necessary to call passing attention to the causes, which are exhaustion, exposure, trauma, antecedent infectious diseases, especially measles, pneumonia, typhoid fever and scarlet fever, and pyogenic micro-organisms transmitted through the blood current from some other point in the human economy. It is extremely doubtful if Infectious Osteomyelitis ever exists except secondary to a primary focus in some organ of the body.

The micro-organisms most generally found in the very acute and uncomplicated cases are the staphylococcus pyogenes aureus and albus, streptococcus, typhosus and pneumococcus, but most generally the staphylococcus aureus, as can be demonstrated by culture.

The primary focus of infection is always in the medullary canal, if of the long bone, but very rapidly spreads through the bone cells and cancellous structure to the cortex and under the periosteum. It is always primarily in the diaphysis, and never in the epiphysis. We do not know why, but in ninety-five per cent of the cases it is of the long bones, the location of choice being the tibia, followed by the femur, humerus, radius, ulnar, and fibula; however, no bone of the body is immune or exempt. The reason the infection shows such a predilection for the medul-

---

**A New Method of Handling Small Bladder Diverticula.**—After the diverticulum has been pulled up so that the mucosa is on a level with the bladder wall, Frank S. Schoonover, Jr., Fort Worth, Texas (*Journal A. M. A.*, Oct. 11, 1924), has made this addition to the usual technic: Instead of excising the mucosa, a mattress suture has been placed in such a way that the loop of the suture passes through the bladder wall on each side of the original orifice of the diverticulum and is then tied tightly. This method brings the bladder wall of the opening together entirely outside the diverticulum itself. The mucosa of the diverticulum is slightly redundant, but is not disturbed. This method is applicable only to that type of diverticulum in which the whole wall of the bladder is not included in the sac; that is, where the diverticulum is a true outpouching of the bladder mucosa through the muscular wall of the bladder.

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.

lary tissue in the region of the junction of the metaphysis and epiphysis is because the arteries in these regions are end arteries, and contain a greater blood supply, in which the septic embolus finds such a fruitful field in which to locate, and where it may not only so rapidly and successfully propagate and reproduce micro-organisms of its kind, and destroy by continuity and contiguity the entire bone area of the bone involved, but extend to the joint, and claim as its toll a crippled or maimed human individual, or life itself.

There are only a very few diseases with which osteomyelitis may be confounded in its earliest stage, and if close attention is given to your patient early, these may be easily differentiated. The most common is probably acute septic arthritis or rheumatism, and it is conceded that ninety-five per cent of the cases of Acute Osteomyelitis are primarily diagnosed as such, when the signs of differentiation are clear and distinct. In acute articular rheumatism pain is similar in character, but always different in location. In rheumatism always in the joint, in osteomyelitis always over the bone, and never over the joint, but can be elicited by deep firm pressure over the joint is painful, while in early Acute Osteomyelitis pain is not present over the joint, but can be elicited by deep firm pressure over the bone at or near the epiphyseal line. Acute Osteomyelitis usually gives a history of a previous focus of infection, also trauma of more or less severity, or exposure to cold, comes on with a chill, followed by high temperature, pain over the affected bone, septic sweats, general malaise, while the pain increases rapidly in severity, as does the tenderness on pressure. If in doubt as to whether or not the infection is intra-articular, aspirate the joint, if no effusion is present, your infection is not in the joint. A very high leucocytosis is present in both conditions. After twenty-four to forty-eight hours from the time of the chill there will be an oedematous condition over the bone, evidencing a subperiosteal abscess, and it is at about this time that the physician first sees the patient, and when it is too late to institute the treatment, which would have aborted an otherwise trivial condition. The rapidity of the havoc and destruction wrought by neglected, untreated or mistreated cases of Acute Osteomyelitis is comparable to the actions of an infuriated bull in a china shop, and the havoc and destruction just about as complete as that of a German army in its march toward Paris.

On an average, about forty-eight hours after the initial chill, fever, tenderness on

deep pressure over the point of the bone infected, and the initial pain, there develops, swelling, redness and increased tenderness over the focus of inflammation, and probably an extension of these symptoms over the proximal joint, indicating first a subperiosteal abscess of small or large degree, or an extension of the infection through the epiphysis and into the joint. Invasion under the periosteum may, and usually does travel up or down the shaft of the bone affected until there is complete destruction of the bone involved from one epiphyseal end to the other, or else a more or less general pyemic condition arises, from which the individual may succumb. If the joint be spared invasion, the pus eventually finds its exit from beneath the periosteum and manifests itself as a localized abscess in some near part of the limb, from which it seeks an outlet by incision or spontaneous rupture through the skin and soft structures. Long before this stage has been attained irreparable damage and destruction have been wrought, and the patient rendered more or less a permanent cripple, or has through a pyemic condition passed on to his just reward.

Treatment necessarily depends upon the stage of infection and degree of bone destruction existing at the time in which the patient is first seen. To those of you who have not read Murphy's Clinical talks on Osteomyelitis I would urge upon you to do so, for nowhere is the subject so masterfully handled, and if you will but read, and follow him, no one need ever make a mistake in either diagnosis or treatment. When Murphy spoke, he said it all, and in so far as I have been able to find, there has not been one new idea or thought advanced on the subject since his day.

If the case comes under observation within the first twenty-four or forty-eight hours, a ready and rapid cure can be accomplished by free incision down to and through the periosteum, and by drilling one or more holes through the cancellous structure into the medullary canal, and establishing free drainage of the canal. Unfortunately, as a rule, the case, when first seen presents a massive infection, for which, expediency demands only primary drainage of the abscess, and awaits the case to assume a chronic type in character. Primary drainage means not only drainage of the soft structure, but also free openings into the bone in one or more points, and if necessary removal of a section of the bone for a greater part of its entire length, this to be packed with gauze and kept open from six to eight months, or until an in-



volucrum of sufficient size has developed, as will be shown by X-ray, when the sequestrum should be thoroughly, entirely and completely removed, leaving all the healthy bone and periosteum if possible, for, it matters not, for practical purposes, whether the osteogenetic powers lie in the periosteum, medullary substance, or the cancellous structure, it is doubtful if periosteum can be stripped from vitalized bone without carrying some cancellous cells. At any rate new bone does grow from that portion of the periosteum, which is left undisturbed. After the sequestrum has been removed the wound should be packed with iodoform gauze and kept open for weeks, and for months, if necessary, or until new bone has developed sufficient to replace that removed. It is absolutely necessary to apply a fixed dressing during the reparative process, in order to prevent distortion from muscular pull, and the use of the limb must be prohibited for from six to twelve months, if you would secure the best cosmetic and functional results.

If the sequestrum embraces periosteum and bone from one epiphyseal end to the other, then resort must be had to either bone transfer or to bone transplant, but not until after sufficient time has elapsed for the wound to heal from which the sequestrum was removed.

#### CONCLUSIONS.

If there be a place for active early surgery, it is in acute infective osteomyelitis.

If there be a place for careful painstaking and thorough examination of your patient with proper interpretation of your symptoms, it is in Acute Infective Osteomyelitis.

If there be a place for good, honest, patient intelligent and conservative surgery, it is in chronic osteomyelitis.

#### DISCUSSION

**Barnett Owen, Louisville:** I believe if I were to write a paper on acute osteomyelitis, I would be thoroughly satisfied with the paper just read by Dr. Stewart, because every statement that he has made I most heartily concur in. Of course, I can only emphasize a few points that I think are of very much value, because we are led to believe by the medical literature that acute osteomyelitis is easy of diagnosis. I thoroughly agree with Dr. Stewart that it is quite possible in many instances to make a correct and early diagnosis of acute osteomyelitis, but unfortunately we don't see those patients early enough and probably if we did there are many cases in which we might overlook it, because they are not all typical by any means. You have a young child with pain, frequently a lot of swelling around

the limb, maybe not in the joint but near the joint, pain on pressure every place, pain on motion of the knee if it is in the thigh because of the muscular motion going over the shaft of the bone where the inflammatory spot is located. Pain on pressure, I feel, is the most important point in the positive diagnosis. Of course, the primary onset is typical with that of any acute infection—high temperature, increased leukoeytosis, and the picture of a very ill patient, coming on comparatively suddenly.

I do not know of any condition in which early treatment is indicated to a greater degree than that of acute osteomyelitis, and the treatment, of course, consists of free and early drainage. After we have gotten to that point, then we can search for the primary cause. I don't feel that we have time to make extensive investigations; after we have gotten pain on pressure over the shaft of the bone with symptoms of acute infection we should open and drain first, then utilize the next few days in trying to find out the origin of this particular focus. We are not always quite thorough with the case after we have established drainage in this particular instance, because in many instances we have a multiple infection. The first infection may be in the femur, the next probably in the humerus and maybe the next one in the spine or some other locality in the body, or if your drainage has not been sufficient you will probably have a continuation or an acute exacerbation of the original acute infection, or you may have a walled off infection in the same shaft of the bone. I have seen that happen. It is unusual, but it is possible. Just because we have operated and established drainage in one spot we shouldn't be satisfied that that is going to cure the case. Unfortunately the X-ray investigations of acute osteomyelitis have been absolutely of no value because there has been no bony changes at that time. After it has become chronic and there has been bone destruction, in the assistance of localization of some sequestra the X-ray is of great value.

**J. D. Trawick, Louisville:** It was a very great pleasure to have a quick view of Dr. Stewart's paper just before he read it. I don't know of any condition that we have to face that is much more tragic than acute osteomyelitis, tragic in its course, tragic in its outcome. There are some of these cases that turn out well, but after you have seen a few of them go bad all of a sudden, you wonder if a fellow with acute osteomyelitis ever gets well.

The early diagnosis is difficult. I don't think we ought to adopt the attitude of condemnation simply because the early diagnosis is not made properly. Dr. Stewart made the statement that probably ninety-five per cent of these cases are called rheumatism in their early stages. That

probably is true. I don't feel, however, that because a man has honestly thought of rheumatism in the early stage he must be condemned. I believe he must be condemned, however, if he continues to call this thing rheumatism after he has observed it for days and maybe weeks and found that the pain is persistent at the same spot.

Dr. Stewart's figure of the bull in the china shop is well chosen. I wish I might impress upon you this fact that Dr. Owen accentuated, that the bull in the china shop stage can not be anticipated by your X-ray. This bull in the china shop business is going on before your X-ray will indicate it, and simply because your X-ray shows nothing there, don't say, "We will wait," because your bull is in your china shop right now.

Let us recall just what you have to deal with. You have a bone channel filled with soft marrow, richly endowed with blood vessels: on the outer side of the bone is the periosteum, and there you are. Your bull in the china shop is racing up and down through this channel. If by our incision we may go through the periosteum, make our quick drainage through the cancellous tissue it is interesting to see how frequently the bull will jump out of the china shop through the pus that is contained therein the canal of the bone. Free drainage is indicated at this stage.

**Guy Grigsby, Louisville:** Papers on osteomyelitis are always timely just as they are on acute appendicitis.

As has been pointed out by the speaker and by those who have discussed it as being an extremely devastating condition, unfortunately in the diagnosis of these conditions the destruction and frequently the greatest amount of destruction has already occurred in twenty-four to forty-eight hours.

A point that has not been brought out and which is well to bear in mind is that the great majority of cases of acute osteomyelitis occur in children from seven to fourteen years of age. During that period, according to the lay mind, rheumatism and growing pains are prevalent, and frequently this diagnosis is made by the parents and the destruction of the bone has occurred before the practitioner sees the patient.

Another point is to remember, as in all bone disease, that the pain is very much more acute during night-time. The pain is very characteristic, being of an extreme boring in character, situated, as has been pointed out, in the shaft of the bone.

I wish to differ with some of those who have discussed this paper in the question of being radical in the treatment of both the acute as well as the chronic form of osteomyelitis. I would much rather err upon the side of removing too much bone than of taking out too little. If

you get rid of your infection this case is going to clear up very rapidly, and the bone will be reformed very quickly. After the acute process is over and your infection persists, then your X-ray man can be of incalculable benefit in aiding you in the proper procedure to pursue toward the cure of the case. Accurate interpretation of your plate will definitely show you just the area of destruction of bone and how much it will be necessary for you to remove to cure the case.

A case that I have reported recently taught me quite a valuable lesson. It was an acute process, at the time I saw it, with complete destruction of the fibula. The practitioner and I were both misled on account of the rare infection of this bone; as infection in the lower limb is practically always situated in the tibia, this case was overlooked. The point I want to bring out is that the X-ray definitely showed us the area of destruction involved, not only the shaft but the upper epiphysis of the bone, and at the time of the operation a complete subperiosteal removal of the entire fibula was done, and instead of draining this case it was closed tightly without drainage. It healed up promptly as any other non-infected wound would heal, and very fortunately now, six months from the time there has been a complete regeneration of the fibula and this boy is going to actively enter into the football games this fall. The whole proposition, as I say, is to err on the side of being radical in removal of your bone rather than to remove too small an amount. If you eradicate your disease these cases heal up very promptly.

**Phillip Barbour, Louisville:** I was very pleased indeed to hear from Dr. Stewart on osteomyelitis. I have seen children die from cases of osteomyelitis that I had not properly diagnosed, and I have a very deep respect for this infection. It is wonderful how often people think of pain as being something natural to children. Whenever a child has a pain anywhere, there is some cause for it and it is up to us as physicians to find out why the child has a pain. I think we should educate our mothers to the fact that pain is not the normal thing in childhood; it is the abnormal thing and indicative of trouble. We would save lots of hearts and lots of other things in older children, if we would impress upon the mothers that pain is not a natural thing, that growing pains are something that ought not to be found in childhood, we would have a clientele in after years that would appreciate our saving them trouble.

One thing I want to emphasize is the diagnostic point that Murphy stresses. Murphy begins by very light pressure over the limb where the pain is felt, just the lightest pressure with the thumb, going from one end of the bone to the other. He starts over again and presses a little bit harder,



and then a third time he goes down and presses still harder, and perhaps the fourth time until he gets full pressure, and at the point where the osteomyelitis is the patient will flinch. That is a localizing symptom that has helped me out in obscure cases.

Another point that Dr. Stewart did not stress but I think ought to be stressed is when you are in doubt operate. The opening of a bone is a very simple process, for instance the opening of the femur from the outside. It necessitates only a few days in bed at the most, and if pus is in there you probably save the life of your patient. If pus is not there you have done very little harm. If you wait for an X-ray picture to prove your diagnosis, damage is done, the sequestrum is formed and perhaps your patient has passed beyond the point where operation is going to be of any benefit at all.

**G. A. Hendon, Louisville:** The successful management of this infection, like other diseases that are before us now, hinges upon the point of early diagnosis. In order to arrive at early diagnosis or to recognize the condition in its incipient stage, we must be willing to risk our reputation upon a very few symptoms. The reason why diagnosis is delayed is because of the fact that the doctor is waiting for a development of a sufficient number of symptoms to complete the picture that he has in his mind, and as long as we follow that line of investigation, just so long will we see people who are suffering from the effects of neglect and of tardy diagnosis.

In order to arrive at a diagnosis early in osteomyelitis, the first thing we must do is to eradicate from our minds the blind goddess of rheumatism, which I don't believe is rheumatism, because I don't believe there is any such thing. The word has no meaning, it has no definite application, it has no place in scientific nomenclature. The reason it leads people into error is because there is no common ground of understanding of subject. If two men discuss the subject of rheumatism, one may be thinking about one thing and the other may be thinking about something totally different.

The difference between rheumatism, so-called, and osteomyelitis is merely a difference in the location of the infections. In arthritis there is an infection of the synovial membrane of the joint; in osteomyelitis there is an infection of the canal of the bone.

All of the disorganized and mutilated limbs that I have seen as a result of osteomyelitis occurred in typical cases. There are at least ninety-five atypical cases of osteomyelitis where there is one single typical case.

Let a man twenty years old come into your office with a deformed limb, and he will begin to tell

you his story. You can interrupt him in the very first sentence and tell the story for him, because you know what has happened. A child from five to fifteen years of age has a sudden, sharp pain in his leg and screams. There is high temperature and usually delirium, in fact nearly always, and the pain is referred to a limb. That is all you want to know, and if that case is recognized in the first forty-eight hours, which is perfectly simple and easy to do, you save the patient all the serious consequences above alluded to.

**P. H. Stewart, Paducah:** Mr. President and Members of the Society I certainly appreciate the discussion of this paper, and I will consume but a few moments in closing it. I just want to say one thing. When you are called to attend a case of acute infectious osteomyelitis early, forget your reputation; that is secondary; think only of life and limb and usefulness of the individual. If you make a mistake in instituting early drainage you haven't done yourself much harm, you have not done your patient any.

I have seen cases in which the drainage had been instituted early, as Dr. Hendon has said, by a simple incision down to and through the periosteum, with one or two or three holes bored into the medullary canal with an ordinary gimlet. It is just as good as any surgical instrument carried by Smith and Sharp or anybody else. Sometimes when you make these incisions and bore your trephine openings into your bone canal, you feel you are disappointed, that you have made a mistake in the diagnosis because you do not see the pus immediately well up. But if you will stand and watch those trephine openings for a few minutes, you will see the pus beginning to come out through your opening, which makes you feel altogether different and a very happy individual. However, if you are disappointed at that time, dress your patient leaving the wound open, and the next morning when you go back, you will find your dressing saturated with pus which has come from the medullary canal, confirming the wisdom of your procedure.

I do want to lay stress upon this: When you see your case early, that is the time to make your drainage, that is the time to cure your patient and to prevent the loss of a limb or the loss of the function of a limb or your patient's life. If you cannot drain it early, then the procedure is altogether a different one and extends over a long period of time.

## VASO-EPIDIDYMOSTOMY.\*

By HENRY J. FARBACH, Louisville.

Sterility is a thing which strongly emphasizes that common human trait—"to desire that which is denied." In the modern scope of social affairs, the average couple who have declared their intention to marry, discuss birth control with the same freedom as other living necessities.

The various methods of preventing conception are practiced for a time, but one by one the wives of the various couples in the group of friends "puts aside the cheese cloth and cotton and begin to work on linen and flannel."

After enjoying three or four years of increasing prosperity and happiness our couple decide that they will have a boy baby. The rubber equipment is thereupon discarded and much time is utilized in discussing the naming, rearing and education of the prospective but yet unborn child. Several months pass, however, and the catamenial flow reappears with the regularity of the moon.

Resort is then had to charm and fetish, but these too seem to have lost their potency, and finally the physician is consulted. For some unknown or unexplained reason the blame for sterility is almost invariably placed upon the female; in many instances a perfectly normal cervix is divulsed and a normal uterus curetted, when a simple and easily executed examination of the semen of the husband would show the failure of conception to be due to absence of spermatozoa.

Aspermia may be due to many causes, but the one of especial interest in this discussion is obstruction of the efferent seminal vessels by inflammatory exudate. The most frequent cause of this is Neisserian infection, and the part most often involved is the epididymis. To cause complete aspermia of course the epididymitis must have been bilateral. Such was the condition in the case to be reported.

Eighteen years ago, the patient, now a man of forty-three years of age, had bilateral epididymitis Neisserian in type of several weeks duration. He married six years ago and no method to prevent conception has been utilized during the last four years. So far as can be ascertained his sexual history has been perfectly normal.

Local examination revealed a small hydrocele on one side. Numerous microscopic examinations of his semen failed to disclose any

spermatozoa. All therapeutic measures had failed; these consisted of local applications, massage, hydrotherapy, the administration of organic extracts and other medicaments.

Many reports of various operations having for their object re-establishment of the seminal flow are to be found in the literature. The procedure employed in this instance was a combination of several of these.

The testis seeming the most normal was selected for the operation. Incision through the scrotal wall and tunica vaginalis liberated the testicle and epididymis. The spermatic cord was isolated and stripped of its covering for the distance of an inch or two, as near the tail of the epididymis as practicable. This was then fixed with a loop of gauze and attention directed to the epididymis. The point of occlusion in epididymis or cord as a rule is easily discerned. A prominent or bulging tubule of the epididymis was then selected and its outer covering carefully dissected away. A very fine needle threaded with No. 00000 silk (or human hair) was passed through this tubule taking a "bite" of one or two millimeters. Within a few seconds after this puncture was made a small drop of excretion appeared and this was examined microscopically for spermatozoa. Sometimes in the first tubule punctured one fails to find any spermatozoa. In some cases inactive spermatozoa are found, but in my opinion this is of no particular significance. If spermatozoa are present in the tubules of the epididymis, I think we may feel assured that the spermatogenetic cells are still active in the testicle.

When semen was found the following procedure was followed: The stripped cord was ligated as near the point of obstruction as possible (as a rule obstruction is found near the tail of the epididymis), and severed distal to the ligature. A strand of silkworm gut was then passed through the lumen of the cord for about eight inches to be certain of its patency to the ejaculatory duct.

The end of the cord was then split on one side for six to ten millimeters. The thread already passed through the tubule was then carried through the center of the expanded portion of the cord, both ends of the thread being passed through the eye of the needle. Care must be taken that the cord and tubule are in perfect apposition without torsion or tension. One end of a silver wire (or silkworm gut) two and a half inches long was passed through the punctured tubule downward through other tubules and emerged from the epididymis at a lower point, the other end was passed into the lumen of the

\*Clinical report before the Jefferson County Medical Society.



cord to keep it patent. The expanded end of the cord was then fastened to the covering of the tubule by several properly placed sutures of human hair. Slight traction was used on the suture going through the center and care was taken to leave the split cord over the tubule. The area was reinforced with the covering of the tubule.

The needle on the thread which passed through the tubule and cord was removed and a knot tied as tightly as practicable without breaking the fine silk. The testicle was then replaced and the tunica vaginalis and scrotum closed, the cutting ligature extending through the scrotal incision. The silver wire (or silkworm gut) was removed in about thirty-six hours. Traction is made on the ligature once or twice a day until it comes away, which is in from three to ten days. In about fifty per cent of the cases thus treated spermatozoa have appeared in the semen within from two weeks to six months after the operation.

The object of the procedure is to re-establish or form a new seminal canal. The suture or ligature placed on the tubule of the epididymis protrudes from the scrotal wound and traction causes it to cut its way through the tissue. An opening is thus formed for the spermatozoa to escape from the epididymis into the newly established spermatic cord. Statistics of these various procedures in the hands of different surgeons show that they have been successful in re-establishing the flow of semen through the cord in about fifty per cent of cases.

My experience embraces three cases operated upon according to the method described. The patient forming the basis for this report was operated upon four years ago; conception occurred after eight weeks, and the reward was a living child. The second attempt resulted in failure. The third patient was just recently operated upon.

### DISCUSSION.

**Edward R. Palmer:** The operative procedure described by Dr. Farbach is very interesting. I cannot say anything about it from personal experience, as I have never attempted the operation; but from reports in the literature, and as substantiated by Dr. Farbach, if fifty per cent of successful results can be obtained, it seems that the operation should be undertaken more frequently than it has in the past, as sterility following epididymitis is exceedingly common. Following unilateral epididymitis it is said to be ten to twenty-five per cent, and from seventy-five to eighty per cent following bilateral epididymitis. From the fact that, even after many years have elapsed, the spermatozoa are still viable in the

testicle, it would seem that if the patient is not seen until later in life the operation promises some measure of success. It is a procedure attended with no serious clinical risk, and outside the fact that it must be an extremely delicate and tedious operation, I can see no reason for not undertaking it.

**Henry J. Farbach (closing):** In the successful case mentioned spermatozoa appeared about one month after the operation. Others have reported absence of spermatozoa for six months or longer.

The results obtained by this procedure emphasizes the fact that when married people consult the physician because of the lack of conception, unless there is some gross pathology present to account for the sterility, the semen of the man should be examined before the woman is subjected to any operative treatment.

The procedure described is delicate, slow and tedious, but even if it is unsuccessful the man is in no worse condition than before being operated upon. Where people are anxious to have children I believe vaso-epididymostomy should be given a trial, provided it can be shown that aspermia is present.

---

**Foreign Bodies In The Bladder.**—Sterling P. Bond, Little Rock, Ark. (Journal A. M. A., Oct. 11, 1924), removed the following articles from the bladder of a man, aged 58: from eighty to ninety nails varying from 6 to 16 penny, weighing 350 gm., 20 gm., of cobblers' nails and carpet tacks; one roofing nail; several pieces of glass, the largest of which was one-half inch in breadth and three-fourths inch in length; bits of stone; a piece of enamel from a tooth; one carpal bone of a small animal, and two 3-inch serews. Two of the 12 penny nails had stone formation on the ends. The stones were about one-half inch in diameter. There were also feces, pus and partially digested fibers. From thirty to forty tacks were removed from the postero-inferior portion of the bladder just above the trigon. The patient died. In the ileum there were eight tacks which reached there through a fistula from the ileum to the bladder.

---

A Bruce Gill, Philadelphia (Journal A. M. A., Oct. 11, 1924), asserts that fibrous ankylosis of the fingers which is due to prolonged swelling is one of the most common acquired disabilities of the hand. It may result from any fracture or dislocation in the upper extremity, and from extensive wounds and infections of the hand or forearm. It presents the chief disability which results from Colles' fracture. In any surgical lesion of the upper extremity, the condition of the hand must never be lost sight of.

## CLINICAL OBSERVATIONS.\*

By GUY P. GRIGSBY, Louisville.

Instead of presenting an especially prepared essay on this occasion, I have thought it might be interesting to report a few recent clinical observations, with exhibition of the patients, in the hope of eliciting a liberal discussion. The three cases to be recorded seem sufficiently important to warrant detail report. The patients range in age from two months to five years.

CASE I. Anita O'B., female, aged five years, admitted to the Jewish Hospital December 30, 1923. During the afternoon of the day of admission, while riding in an automobile with her brother and sister, the car was struck by another machine and overturned. The brother escaped without injury, the sister sustained fracture of the right tibia and fibula, and little Anita sustained fracture of both femora at about the middle. Roentgen-ray examination by Dr. Keith showed a transverse fracture of the right femur and an oblique fracture of the left femur. As we were unable to determine at that time whether she had sustained other injuries, it was thought best to keep her under observation for a few days before making an attempt to reduce the fractures. Buck's extension apparatus was applied with an attached weight of about eight pounds to each limb and traction continued for four days. At the end of that time the patient showed no evidence of other injury. I felt that traction applied for this length of time would enable us to more easily reduce the fractures. Various methods of handling the case occurred to me, but it was finally decided to attempt reduction under ether anesthesia, and, if successful, to apply a plaster spica.

Under deep anesthesia I was very much pleased after several attempts to reduce the transverse fracture of the right femur. After getting the ends of the bone in apposition, the limb was flexed at hip and knee and the fragments then thoroughly wedged together by striking the knee with my fist. This procedure apparently fixed the fragments in fairly firm apposition. The plaster spica was then applied to this limb. Firm traction was then used on the other limb and it also was encased in plaster. Roentgenograms made the following day by Dr. B. W. Bayless showed that reduction of the right femur had been very successful. Upon the left side, however, we failed in reduction to displace the faulty position of the lower fragment, and instead of it being in front of the upper fragment, which

would have given us an ideal reduction, it was still backward but in apposition with the upper fragment. As there was no shortening we decided to allow this position to remain believing satisfactory union would occur.

The child wore the casts for about seven weeks with very little discomfort and this proved a most convenient and satisfactory way of dealing with this class of cases. The casts were removed at the end of seven weeks and we were pleased to find that union had occurred with no appreciable shortening of either limb. Examination of the roentgenogram made at that time, I must confess, does not appear as favorable as indicated by the functional result we have obtained.

This case is reported and the patient exhibited because it is rather unusual that one encounters bilateral femoral fracture especially in childhood; and further to recommend, from the experience gained in this case, the application of plaster, because of the satisfactory manner in which the after-care was applied, as the patient could be readily placed in any desired position without the least discomfort.

I feel certain that the result in this case will be as good as could have been obtained by any other method of treatment. It is surprising what nature will do with children in "rounding out" the callus in this class of cases. The casts were removed not quite a week ago, and, as will be noted, the child walks quite well at the present time.

CASE II. Baby Louise G., female, aged two months, was admitted to my service at the Childrens Hospital, February 10, 1924. The following in brief was the history obtained: This is the first baby born to the mother. For some unknown reason the child was not thoroughly examined at birth to see whether or not there were any congenital defects. There was no evidence of defecation for about two weeks, when a small movement occurred. At the end of another week, there being no further defecations, it was discovered that the child had an imperforate anus. A week later the patient was brought to the hospital. The day after admission another fecal movement occurred, and the nurse observed that it came from the vagina.

Examination: The baby was fairly well nourished but quite jaundiced. The perineum showed no evidence of an anal dimple. There were no indications of other congenital malformations. It was immediately decided that an attempt should be made to bring the rectum downward and form an anus.

Operation: Under novocaine anesthesia an incision was made in the perineum from coccyx to vagina. A blind rectal pouch was soon located, and an attempt was made to

\*Clinical report with exhibition of patients before the Louisville Medico-Chirurgical Society.



open it but was found that the layers were completely sealed together. Further dissection upward for about an inch and a half disclosed a distended loop of intestine. This was brought downward and the perineal structures closed around it where we thought the anal site should be. The blind rectal pouch was then opened which allowed the escape of a large quantity of feces. A catheter could then be easily passed upward into the sigmoid without meeting any obstruction. No attempt was made to repair the vaginal fistula.

Subsequent history: Unfortunately infection followed the operative procedure and it was necessary to remove the sutures. Under hot applications the infection has now about subsided. There has been some retraction of the rectum, dilatation is being practiced daily with a large catheter, and the child has continued to improve. At present we are unable to decide whether it will be necessary in the future to operate again to bring the rectum closer to the skin. We are hopeful, however, that nature will come to our aid and that further surgical procedures will be unnecessary.

**CASE III.** Baby G., male, aged three months, was admitted to my service at the Childrens' Hospital, February 25, 1924. This child, as will be noted, has a congenital deformity consisting of epispadias and ectopia vesicae.

**Examination:** The child is in fair general condition and there appears to be no other congenital malformation. Both the epispadias and the ectopia of the bladder are extreme. An attempt made by plastic operation to close the bladder has been a complete failure. Practically all the vesical mucosa is everted and protrudes beyond the skin. A probe introduced into the opening shows practically no vesical cavity.

I am taking the liberty of exhibiting this patient in the hope of receiving some suggestions as to the proper procedure in dealing with the deformity. The history of this class of cases shows that practically all the patients die before the end of the tenth year unless some method of successful operation has been instituted. It will be observed on inspection that the penis in this case is very short, that there is marked epispadias, that the scrotum is very small, that the abdominal wall is lacking in the median line, that the recti muscles are poorly developed, that there is no vesical sphincter, and there is acute inflammation of the vesical mucosa. Any type of plastic operation upon the bladder in these cases is usually unsuccessful. If successful, and it is possible to close the epispadias, there is still no way of establishing a vesical sphincter.

For this reason plastic operations on the bladder in cases of this kind have practically been discarded.

The operative procedure that has proved most successful is one that comprises complete excision of the bladder, the ureters with the trigone being dissected free intact, leaving enough of the vesical wall to be sure there will be no injury to the ureters. The ureters are then freed a short distance exercising care to preserve the vessels about them, and the remainder of the bladder is then excised. The peritoneal cavity is opened by median incision, the sigmoid is brought into the wound and freed of its contents and rubber intestinal clamps applied thereto. A longitudinal incision is made in the sigmoid opposite the mesentery, the portion of the trigone with the ureters sutured into this incision, and the abdominal wound closed. This is known as the Maydl operation. This procedure has been the most successful in dealing with the malformation under consideration. Peterson found in nineteen cases subjected to this operation that nine succumbed later to renal infection. Of the others the control of the anal sphincter was satisfactory in all except one. About five years of age seems to be the most favorable time for operation.

## DISCUSSIONS.

**Benjamin W. Bayless:** In the case of bilateral femoral fracture, while the position from the roentgen-ray standpoint does not look quite perfect in the left leg, there being slight rotation and overlapping, yet there is no shortening and the callus formation is sufficient to hold the fragments in apposition. As Dr. Grigsby has said in time nature will probably "round off" the rough edges and the bone will be practically straight. The position and alignment of the fragments in the right leg could not be improved upon, reduction being perfect in every respect.

In my opinion good functional results will be secured in this case, although the roentgen-ray does not show perfect position of the left femur at the fracture site.

**Ben Carlos Frazier:** I presume before advent of the roentgen-ray we had thousands of cases of fracture where the patients had perfectly good functional results, yet the alignment and position of the fragments probably looked more or less like the roentgenograms exhibited by Dr. Grigsby. In the early days I saw a great many fractures with the late Dr. Ap Morgan Vance, and do not recall any bad results although we did not then have the aid of the roentgen-ray as a means of establishing perfect approximation. We believed it sufficient to get the fragments in as perfect alignment as possible, the bone ends approximated, relying upon bone cells and callus for adequate repair.

In my early practice I treated quite a number of cases of fracture. I recall one man who fell from a house roof and broke both bones of both legs between the knees and ankles. Reduction was accomplished under an anesthetic, the legs were properly dressed, the man recovered promptly and was living thirty years afterward. In those days we laid greater stress upon functional results than position of the fragments. Restoration of function is the most important item in fracture surgery.

I know very little about extrophy of the bladder, my experience being limited to cases seen with Dr. Vance. I suppose he did more work along this line than anyone else in Louisville. I recall five or six cases similar to the one exhibited by Dr. Grigsby, in some of them the conditions were much worse, more extensive extrophy and greater loss of the abdominal wall. One little girl was operated upon several times and finally was able to wear a urinal with a fair degree of comfort. I believe Dr. Grigsby will find the older the child is the greater co-operation he will be able to obtain. Children who are very young do not understand how to assist the surgeon in his work. Children ten or twelve years old will withstand a great deal of surgery if they think they are going to get well eventually. Dr. Vance worked with these children faithfully and patiently and in some of them good results were obtained. Of course a urinal had to be worn in all cases as he did not transplant ureters into the intestinal canal but depended upon plastic surgery.

I recall one boy from Illinois upon whom Dr. Vance operated repeatedly. That boy was so much improved that he finally married. The epispadias was corrected and a fairly normal penis secured. Bladder extrophy is a horrible condition and if Dr. Grigsby can correct the deformity in the case he has reported in the course of several years he will have accomplished something worth while.

In the little patient shown by Dr. Grigsby, both ureteral orifices can be seen constantly dribbling urine. Whether he transplants the ureters into the sigmoid or rectum, or depends upon plastic surgery "piling up" the tissue a fraction of an inch at a time until a receptacle is formed for the urine, if he can secure a favorable result, he will deserve great credit. If an artificial bladder can be formed by repeated dissection of sufficient size to hold an ounce or two of urine and cause it to flow through the urethra, the child will be greatly benefitted.

**C. Skinner:** I remember that Dr. David Yandell, many years ago, had a case of extrophy of the bladder before his clinic on many occasions. The patient was a boy who was kept in the hospital during one entire session of school. I do not know how many times Dr. Yandell oper-

ated upon him, but a very good result was eventually secured. The boy became so accustomed to the operative procedures that he gave his own anesthetic.

**Granville S. Hanes:** Imperforate anus with the rectal opening through the posterior vaginal wall is not an infrequent form of malformation. The opening through the posterior vaginal wall is usually much lower than in the case reported by Dr. Grigsby, i. e., just inside the vaginal orifice. In normal fetal development the rectum passes forward and a little downward over the coccyx and the pelvic floor until it approaches the posterior vaginal wall where the anal opening is formed. This is a perforation through the pelvic floor almost at right angles to the direction of the rectum and aids very much in fecal control.

In female children the distance is very short between the rectal and vaginal openings and we can readily see that it is not a great mistake upon the part of nature when the rectal opening is through the lower posterior vaginal wall and not through the pelvic floor. In that type of case (and I have such a patient under observation upon whom I expect to operate next week) the operative procedure is usually fairly simple. An incision is made through the perineum extending from the vaginal opening as far backward as it is desired to establish the anal opening. The distal extremity of the rectum is dissected free and transplanted backward to the proper location and is there sutured to the skin and deeper structures. The perineal wound is then sutured to the vaginal orifice and the opening through the posterior vaginal wall is also closed.

If the rectal opening through the vagina is large enough to admit of fairly free fecal elimination it is better to defer operation until the child is about two years of age.

It is an interesting observation to note the variations in the distance between the anal and vaginal openings in females. In some cases the two openings are so near each other that the perineal space is very short, while in others the anal opening may be much nearer the tip of the coccyx which makes the distance between the anal and vaginal openings much farther.

In Dr. Grigsby's case the opening through the vaginal wall is very high and is due to the fact that the hind gut ascended but a short distance below the peritoneal cavity. In this case there is almost total absence of the rectum. The doctor had to make a very deep incision to reach the end of the intestine and it was necessary to bring down the lower end of the sigmoid with the undeveloped rectum. Under these circumstances I believe the greatest difficulty is going to occur from contraction of the artificial opening. It may later be found necessary to enlarge this



opening, bring down the rectal mucosa and suture it to the deeper structures and to the skin. This will overcome the difficulty from contraction.

The result that Dr. Grigsby has so far secured is excellent. He had to dissect the tissues for a considerable distance before the rectum could be located and this is a dangerous procedure in very young infants. In my opinion the vaginal fistula will take care of itself and the chief difficulty will be in dealing with the artificial opening.

**J. Garland Sherrill:** All the cases reported by Dr. Grigsby are exceedingly interesting. I will follow the lead of Dr. Hanes and discuss the second case first. I have seen two cases of imperforate anus, one when interne at the city hospital many years ago, and another (referred by Dr. Skinner) several years later. In the latter case the mother had given birth to five children within five years all single births.

There are several types of imperforate anus, the simplest being where the distal extremity of the rectum lies in close proximity to the skin. In such cases it is a comparatively simple matter to incise the skin through the anal dimple, locate the rectum and attach it to the skin margin. The second type is one where there is a cord extending from the rectum to the anus without any contact with the bladder or the vagina. The third type is one where the rectum ends blindly several inches above where the anus should be with only a cord between it and the point of contact.

The case I saw with Dr. Skinner was in a male infant, and it has always been my impression that this malformation occurred more frequently in males than in females, but in this I may be mistaken. Dr. Skinner's patient was a baby sixty hours old which was not nourishing well because of an imperforate anus and was passing feces with urine through the urethra. We decided to attempt to make the primary operation an enterostomy so as to get the child to the point where it could be nourished before undertaking the final procedure of establishing a new anal opening; but the little fellow was very delicate, he did not nourish well, and finally died.

The case seen at the city hospital was also in a very young baby and the rectum was a considerable distance from the anus. In the operative manipulations made by the attending surgeon there was a considerable amount of trauma, and this baby also perished.

The case of bilateral fracture of the femur demonstrates to my mind that we can have perfect function with perfect position and contour of the limb, and yet there may slight anatomical deviation of the fragments. In other words, it carries us back to the days when we had no roentgen-ray to guide us, and when we secured good functional results without shortening or

interference with joint movements, we considered ourselves most fortunate in the treatment of femoral fractures. At the present time, because of the information furnished by the roentgen-ray, we are forced to attempt to obtain a more perfect anatomical position oftentimes in my opinion at the expense of function, sometimes at the expense of the limb, and sometimes even perhaps at the expense of the life of the individual. In this connection, I believe there are certain very definite indications for the open operation in the surgical treatment of fractures. There are also certain definite indications for the treatment of fracture by so-called expectant or non-operative methods. In children where the reparative processes are active, and where the functional result will be improved as the child grows older, we may often get a much better result by the so-called expectant treatment than by open operative measures. In any event where open operation is indicated it should be performed for certain definite indications and only by surgeons who have perfected the technique incident to this class of work. Unless the surgeon has almost perfect surgical technique he had better leave bone surgery alone, because when once bone becomes infected it is exceedingly difficult to overcome the infection, and if any operative work is attempted under these conditions the result is likely to be unfavorable.

I have in mind a patient who came to me one year after a railroad accident with fracture of both tibia and fibula. The tibia had become infected and there was non-union. I rather discouraged operative intervention at first and urged delay with further trial of the expectant plan of treatment. However, the patient returned and I then made an open operation using the gimlets devised by the late Dr. H. Horace Grant for fixation and thought the fragments were in excellent position; but the gimlets did not fix the bone in both directions and there resulted a bowed tibia. At the second operation performed a reasonable length of time after the original attempt, the wound was re-opened and a piece of bone transplanted, a long section being cut from one fragment and a short section from the other. In that way fairly good position of the tibial fragments was secured. For a time it appeared that this operation would be successful, but infection persisted and the bone never united. While the patient is able to walk fairly well with a brace, every now and then there is an eruption of the infective process. She reported to me this evening over the telephone that she has decided to have the leg amputated, that is has become very sore again and she thinks she would be better off without it. I have felt that perhaps I was not sufficiently skillful in the handling of this case, but at the present time I do not know of any plan of treatment which will offer this woman anything like a perfect limb, and the question

arises for serious consideration whether three or four inches of the bone should be excised hoping that nature will cause re-formation from the periosteum, or whether it would be better to perform amputation. Personally I am opposed to amputation where there is any possibility of preserving the limb and securing a reasonable amount of function, and that makes a difficult problem for us to decide.

In the case reported I wish to emphasize the fact that Dr. Grigsby has secured an excellent result in both limbs with function as good as could have been obtained from any plan of treatment. There is slight rotation of the left limb although the fragments seem to be in very good position. I have found a very valuable guide in getting the lower fragment in proper alignment with the upper as regards rotation is to make alignment between the external condyle, the malleolus and the greater trochanter. When this is done the fragments are certain to be in proper position and there will be no resulting deformity. I believe every one would be benefitted by reading Cowling's monograph on the treatment of fractures written many years ago. To my mind it is the clearest, sanest and soundest treatise on fractures that I have ever read and put more in a nutshell than I have ever seen in a single monograph. With a few additions covering present knowledge of bone surgery I believe all will agree that it would be better than any text book ever printed.

In regard to the third case reported by Dr. Grigsby: I must confess that I consider plastic surgery the most difficult surgical work we have to handle. It requires great care, infinite patience and perfect technique. The late Dr. Ap Morgan Vance as we all know did some really wonderful work in extrophy of the bladder. He was a firm believer in plastic surgery in such cases and I am sure his results have never been equaled by any other surgeon. I have had one such case and the patient was operated upon many times and a fair result was finally secured. Following plastic work all these patients have to wear a urinal, but they are able to exist in comparative comfort. Of course the easier and quicker plan is to transplant the ureters into the rectum or sigmoid, but the morbidity following this procedure is very high due to infection of the kidney. This applies especially to cases where only a small portion of the trigone is transplanted with the ureter. Where a larger portion is transplanted, as proposed by Dr. Grigsby, the results are more favorable, the sphincteric action of the ureteral orifices not being entirely destroyed the fecal current does not come into direct contact with the ureteral interior.

**Morris Flexner:** I believe the general impression is that patients with bladder extrophy perish before the age of ten years regardless of

anything that may be done surgically to overcome the malformation. In contradistinction to this, however, I recall a man of thirty-five seen when I was a medical student who made a living exhibiting his extrophy of the bladder. He made the rounds of medical schools and charged each student a fee for the privilege of examining him. While the bladder extrophy was complete the man seemed to be in good health.

In the case of imperforate anus reported I wonder if better results would have been obtained if, after the loop of intestine was brought downward and sutured, opening of the intestine had been postponed until some union had occurred, as is done in the normal colostomy. The child was defecating through the vagina and could have continued to do so for some time.

**Guy P. Grigsby (closing):** In reducing the transverse fracture of the femur (CASE 1), as stated in the paper, the limb was flexed at the hip and knee and the fragments then wedged together by striking the knee with my fist. This point is one that I think should be emphasized as it was thoroughly effective in this case. After reduction the limb was shaken but there was no slipping of the fragments. The plan was employed as a safeguard to keep the fragments from slipping while the spica bandage was being applied. This is the first case of bilateral femoral fracture that I have encountered in a child. It appeared very easy to suspend the little patient on a frame, but there was so much difficulty that after three or four days we had to discontinue the Buck's extension. Almost invariably in the morning the child would be found hanging over the edge of the bed with her foot against the footboard thus nullifying the effect of extension. It would be impossible in a case of this kind to successfully practice extension with the services of two special nurses. Reduction was not especially difficult under anesthesia, and application of the spica bandage was by far the most convenient way of handling the case and securing the greatest measure of comfort to the little patient. She could be turned in any position desired, the bed pan used, etc., without the slightest discomfort, and it was remarkable how soon she was trained to prevent soiling the cast. After the first three days she really had an enjoyable time in the hospital and regrets to leave.

As to the case of imperforate anus: This is the fourth patient I have seen and operated upon for such a malformation. The other three cases occurred several years ago and were reported before a meeting of the Jefferson County Medical Society. In two a successful operation was performed, in the other I was unable to locate the distal extremity of the rectum and of course the operation was a failure. I may mention as a peculiar feature, that three of these cases oc-



curred in the practice of one physician during a period of two years. Perusal of the literature confirms what Dr. Hanes has told us, that imperforate anus occurs in females oftener than in males. The vaginal fistula in the case reported is much higher than ordinarily happens. As Dr. Hanes has said in the majority of cases the fistula is just within the vaginal orifice. In cases of that type there is usually merely a thin membrane of skin over the distal extremity of the rectum, and treatment is comparatively easy. However, in this case we determined by passing a probe into the fistula through the vagina that it was very high in the vaginal vault, and under the circumstances I felt sure the tissues would have to be dissected some distance upward before the rectum could be located, and this proved true. I believe all of these little patients should be operated upon under local anesthesia, contrary to the generally accepted view. It falls to my lot that most of the cases we have at the Children's Hospital are circumcisions, and I am doing all of them under local anesthesia. This plan has been found eminently satisfactory even in the case of very young children. It is remarkable how well children can be controlled in institutions, particularly those who have been there for a few days, and how manageable they become under good treatment and kindness. Even very young children during circumcision, after the first needle puncture is made, if their attention can be diverted, many of them will laugh during the remainder of the operative procedure. As a general proposition in infants and young children I feel that administration of a general anesthetic is a rather hazardous procedure. In the case of imperforate anus the operation consumed twenty minutes or longer, and at the end of the procedure,—whether it was due to relief afforded by expulsion of accumulated feces or some other factor,—at any rate when carried down stairs the baby was sound asleep. The child evidently suffered no pain during the operative procedure although dissection had to be carried very high before the rectum was located. Dr. Flexner's suggestion of making a primary colostomy seems an excellent one. Unfortunately, as stated in the paper, in making the dissection we first encountered a blind pouch, both surfaces of which were sealed together; this was about half an inch in length. In my anxiety to locate the rectum and be certain about the matter, it was opened before being brought downward. Had I recognized the fact, it might have been brought downward without being opened and sutured to the skin margin, to be later opened after adhesions had occurred. As already stated, when the rectum was sutured to the skin margin there was considerable tension, and I believe failure of the sutures to hold was not so much because of infection as from tension. I doubt very much whether any other plan of procedure would have

been more successful than the one followed.

In regard to the case of bladder extrophy: After examining quite a number of text books and articles on this subject, it seems to be the consensus of opinion that all operations upon the bladder had best be abandoned. This opinion is based mainly on the fact that numerous operative procedures are required, treatment extending over a period of months or years, and even if successful the deformity still remains. There is no known method by which the vesical sphincter can be formed, and for that reason the patient has to wear a urinal the remainder of his life as Dr. Sherrill has stated. From the best information I can secure plastic operations upon the bladder for extrophy have been discarded, and most operators now perform some type of transplantation of the ureters into the sigmoid or rectum. Some of these operations have proved eminently successful, but of course there have been many failures. Personally, I believe the type of operation described in the paper promises the best chance of success, viz., transplanting quite a large segment of the trigone with the ureters into the sigmoid. The question that I have not yet fully decided is whether to leave this child alone for a year or two longer, then attempt the transplantation operation or whether to attempt it at the present time. I thought I might secure some advice from the surgeons present on that point. In my opinion it would be advisable to wait until the child is at least two years old before undertaking the operation.

---

**Undescended Testicle.**—The operative treatment of undescended testicle and the end-results in 107 cases are reviewed by Mixter. He says that operations for undescended testicle in childhood may be expected to yield from 75 to 80 per cent of satisfactory results; that is to say, the testicle remains in the scrotum and subsequent atrophy does not ensue. Operation may be undertaken at any age with the expectation of good result, if the accompanying hernia becomes troublesome or other indications arise. The preferable age for operation is between 5 and 12 years. At an earlier age the structures are so delicate that injury to the spermatic vessels is difficult to avoid. Orchidectomy should not be done in childhood. Replacement of the testes in the abdomen should also be avoided on account of the risk of a future malignancy. From this series no light has been thrown on the spermatogenic function of the undescended testis subsequent to an operation performed before puberty. In no instance has a recurrence of the hernia been observed.

## RECOGNITION OF SOME OF THE COMMON AFFECTIONS OF THE ENDOCRINE GLANDS.\*

By W. F. BOGGESE, Louisville

In the disturbance of the Endocrine Glands we are dealing with one of the most important and complicated subjects pertaining to life itself, as well as the well being of the individual, a very complex and intricate interlocking relationship between not only the hormones of the ductless glands themselves, but also the other glands with a dual function, which elaborate both an external secretion that escapes through the duct, and an internal secretion that enters the blood, and doubtless many other hormones from other tissues of the body, in an ever existing conflict to maintain the equilibrium necessary for normal metabolism, nutrition and normal functions of the most important organs of the human body. As a result of this complexity and lack of true physical and laboratory findings, or the demonstration of the hormones in the disturbances of many of these ductless glands, our knowledge and diagnosis must of necessity be largely empirical, for the body functions are regulated not alone by nervous influences, but also by chemical substances that pass from the tissues into the blood serum.

Brown-Sequard first impressed the medical world with the view that all glandular organs with or without ducts may give off into the blood certain substances necessary for the body as a whole. In this country doubtless we are more indebted to Sajous for bringing the importance of these organs to the medical profession in a practical and applicable way.

The manifestations of glandular disturbances may result from hypofunction, hyperfunction, dysfunction, and not inconsiderable number of clinical conditions from disturbances producing the aberrant types. When you consider the interlocking and controlling influences, the one against the other, of the ductless glands, you can easily understand how a disturbance of one of the series will produce disturbances of one or all of the others, as well as the deviation from the typical pictures of hyperfunction and hypofunction, due to these reflex disturbances as well as to the peculiar re-action on the part of the individual patients themselves. The positive proofs and demonstrations of these various

dysfunctions are not easily or positively demonstrated, and their recognition therefore must of necessity be largely empirical.

Taking first into consideration the thyroid gland. It is comparatively easy in your Hyperthyroidism as represented by a true typical Graves disease to make a diagnosis. Whenever you meet a case in which you find (1) tachycardia—(2) rapid emaciation—(3) excessive sweating—(4) persistent watery diarrhoea without apparent cause—(5) neurasthenic state—(6) outspoken Lymphocytosis—(7) one or more eye symptoms—(8) fine tremor—(9) increased basal metabolism—(10) enlarged glands. This gives you a picture so easily recognizable that a mere tyro should be able to make a positive diagnosis, but a very different and a more difficult diagnosis is encountered in the atypical cases of hyperthyroidism, and while many of these atypical cases should not be diagnosed as Graves disease they are due unquestionably to hyperthyroidism, in which only one or more of the chief symptoms are manifested. While it is true that many of the atypical dysfunctions of the thyroid may merge into the typical complex, yet many of them do not, but occur and recur in exacerbations,—the tachycardia showing as a result of high hyper-secretion either from some neuropathic tendencies—from some focal infection or from disturbances of some of the other glands and organs of internal secretion, in which the hormone equilibrium is disturbed.

The diagnosis of these atypical cases can be fairly well established with the presence of the tachycardia, asthenia, thin, delicate, soft, and moist skin—excessive secretion of sweat, with mottled skin which is a fairly constant symptom.

In some cases you can demonstrate the symptoms referable to the eye—other than protrusion of the eye-ball, namely, the widened lid-slits, particularly disassociation of movement of the eye-ball and of the upper eyelid (Graefe sign), insufficiency of convergence, (Moebus sign). Infrequency and incompleteness of involuntary winking (Stellwig's sign). In all of these milder atypical cases you will obtain a markedly increased basal metabolism which will complete your diagnosis. These atypical cases are the ones that you meet so frequently, asthenia, myasthenic, myatonic, anemic, losing flesh and weight, sometimes running a little afternoon temperature, that you will find great difficulty in differentiating from incipient tuberculosis. I would just like to call your attention for a moment to the fact that the treatment of thyrotoxicosis is not the treat-

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, Ky., September 18, 19, 20, 1923.



ment of the heart or any one distressing symptom, but the treatment of the condition in its entirety and its complexity.

In the diagnosis of hypothyroidism we find no trouble in these typical cases of idiopathic myxedema, cretinism, and the congenital dystrophies of the thyroid gland, but a great deal of difficulty may be experienced, and many true causes of ill health may be overlooked in the recognition of the atypical types. For the diagnosis of hypothyroidism in its typical expressions, cretinism and myxedema, is obvious upon its inspection. But we will have many cases in adults as well as children showing indefinite symptoms and conditions of ill health where hypothyroidism should doubtless be expected. The cutaneous system suffers severely—skin often gray and dirty yellow, shows various signs of degeneration. Sometimes you observe large coarse, thickened pigmented areas beset with hairs, skin rough and dry. Many of these mild atypical cases show some signs of thyrogenic obesity. The hair of the head grows dry and brittle, and they become permanently gray in spots. Alopecia may be marked particularly over the temples or occipital lobes. Various skin diseases are regarded as expressions of hypothyroidism. Such are scleroderma, psoriasis, exzema, ichthyosis, acne vulgaris, as well as other cutaneous disorders. Occasionally brilliant cures are ascribable to thyroid medication. In these instances, we must distinguish between a direct effect of thyrexia upon the diseased integument and an indirect effect resulting from the general stimulus to metabolism caused by the thyroid hormone. Scleroderma particularly is probably induced in some instances by sub-thyroid function, as atrophic and sclerotic thyroid glands have been found. (Hektoen, Laredde, and Thomas, etc.) In these cases of hypothyroidism you will find a low basal metabolism rate. In considering the diagnosis of hypothyroidism it is well also to bear in mind that every or any tissue, or organ, may suffer from a decreased or absent supply of thyroid hormone. In children hypothyroidism is characterized by a retardal of growth, accompanied by mental and cutaneous abnormalities, with obesity. The importance of the retardation of pulse, respiration and body temperature is generally under-estimated. The diagnosis of hypothyroidism cannot ever be depended on by laboratory tests alone, for the clinical condition will nearly always betray itself to the casual observer by some small clinical sign, as above indicated.

Then too, we have as a final resort in our diagnosis of hypothyroidism the therapeutic

tests, the administration of thyroid not in large doses, but in small doses over a long period of time, testing periodically your basal metabolism say every two or three weeks.

We also find difficulties in making a diagnosis from other endocrine dystrophies, particularly hypo-pituitarism. Many of the symptoms of neurasthenia are merely those of hypothyroidism. Therefore, keep this fact in mind in handling so-called neurasthenies, and in your treatment of neurasthenia characterized by easy mental and physical fatigue, loss of power for concentration, eye strain for insufficient causes, irritability and depression, itching skin, parasthesias, reflex gastric and intestinal disturbances, are alike in both conditions. Many types of obesity are due to hypothyroidism.

#### DISEASES OF THE PARATHYROID.

On account of the small size, and the hidden position and the difficulty in recognizing parathyroid glands in the gross specimens, it is **only in the last few years** that we have appreciated its importance not alone in the young, but also in the adults.

Furthermore, as an accurate knowledge of the relationship, save in a few conditions of these tiny structures to clinical manifestations is not clearly known—nor has the profession been sufficiently impressed with their importance, yet it was in infants that the attention was first attracted to the presence of parathyroid by the tetany, the disturbance of Calcium metabolism, imperfect development of bones and teeth, as well as nutritional disturbances due to a hypo secretion of the Parathyroid gland. We now know that the Parathyroid gland in disease or functional inaction is capable of producing profound and serious symptoms, and that gland like the thyroid is often times injured in a secondary process during severe and general intoxications. The clinical syndrome of hypothyroidism is characterized by peculiar excitability of the nervous system involving the motor, sensory, and autonomic systems. The most manifest demonstration of this condition is that of tetany. I have seen in the last few years four severe cases of chronic tetany—two idiopathic, and two violent cases after parathyroidectomy. The symptoms most characteristic are the peculiar spasm of the hand with the fingers held in a little straight and flexed at the metacarpophalangeal joints. The thumb is strongly abducted producing the so-called "Obstetrical Hand."

Other contractions and spasms are shown in all the limbs. The lower extremities are less often effected in adults than in children. In

both the contractions of the extremities in tetany are more marked peripherally than centrally. In many cases all the muscles of the face are rigid and immobile, yielding the so-called "Tetany face." The tetany face of children is rather characteristic, and of considerable importance. In nearly all cases of tetany both manifest and latent there is increased mechanical excitability of the motor nerves, whether the stimulus be compression (Trousseau phenomenon) tapping on a peripheral nerve trunk (Chvostek's phenomenon) or making tension on the large nerves innervating an extremity (arm and leg phenomena of Ferenczi, Pool, and Schlessinger.)

Then we have the Erbs Phenomena, the increased excitability of the motor nerves as well as increased excitability of the autonomic, vegetative nervous system, giving you high respiratory, heart, vaso-motor disturbances, with a great deal of trophic disturbances, and disturbances of metabolism, particularly disturbances of the calcium equilibrium. There are a number of other serious conditions where we suspect disturbances of the parathyroid as being responsible for them, and in some cases a therapeutic test has proven them to be so, such as Pagett's Disease, Parkinson's Disease, Thompson's Disease, are conditions that may possibly have some relationship to parathyroid secretion. Certain psychosis may have something to do with parathyroid.

#### ADRENALS.

For a diagnosis of adrenal disturbances we must first have a very clear understanding of the complex influence that these glands have in the human body and in the human life. The prevailing theories concerning the physiological functions of the adrenals were summarized by Lewellyn F. Barker. (1) The tonus theory, which assumes that epinephrin maintains in some way constantly a state of tonus in smooth muscle innervated by the sympathetic nervous system. (2) The emergency theory which regards the suprarenals as an apparatus for discharging epinephrin in emergencies only. (3) The antitoxic theory, according to which the suprarenal secretion neutralizes poisons, or its variation which assumes that the suprarenal products themselves are detoxicated substances. (4) The metabolic theory, which postulates that the presence of minute quantities of epinephrin are necessary for the metabolic activities of the tissues, including the oxygenation of the blood."

Quoting Sajous, the conclusion that "It is the adrenal secretion which, after absorb-

ing oxygen from the pulmonary air and being taken up by the red corpuscles, supplies the whole organism, including the blood, with its oxygen. It is, as such the oxidizing constituent of the hemoglobin, which, in turn, sustains tissue oxidation and metabolism.

There is also such a similarity between the action of the adrenal and the pituitary that again to quote Sajous: "The Pituitary, like the adrenals influences the blood pressure." The pituitary, in keeping with the adrenals, gives rise to glycosuria.

The phenomena provoked by both the pituitary and the adrenals can be traced by irritation or sections along a continuous path leading from the pituitary to the adrenals." And from the foregoing again to quote Sajous:

(1) That the pituitary is connected with the adrenals by direct nerve paths.

(2) That it thus governs, through the adrenals general oxidation, metabolism, and nutrition.

We have a connection alike between the pituitary and the adrenals, and the disturbances between either of these two glands will give similar disturbances of metabolism, nutrition, and general oxidation.

We have both hypo and hyper-adrenalism. Of the hypo-adrenalism, quoting Sajous again, we have three forms:

(1) Functional hypoadrenia, a form in which the adrenals though not the seat of organic lesions, are functionally deficient, because of tardy development, debilitating influences such as fatigue, starvation, etc., and old age.

(2) Progressive hypoadrenia, or Addison's Disease, a form in which the functions of the adrenals or of their secretory nerves are progressively impaired by organic lesions, tuberculosis, Cancer, Fibrosis, etc.

(3) Terminal hypoadrenia, a form which occurs as a more or less tardy complication of infectious diseases and toxemias, owing to exhaustion of the secretory activity of the adrenals during the earlier and febrile stage of the causative disease.

Of these forms we have the most striking example in the Addison's disease, which is an impairment by organic diseases, tuberculosis, cancer, fibroid suprarenal glands. But in addition to these true organic disturbances of the gland, we have a large series of disturbances of health—disturbances of nutrition and metabolism, chronic semi-invalidism characterized by weakness, exhaustion (Asthenia, Myatonia, Myasthenia, Neurasthnia, etc.), and again quoting Sajous: "Functional hypoadrenia is the symptom complex of deficient



activity of the adrenals, due to inadequate development, exhaustion by fatigue, senile degeneration, or any other factor, which without provoking organic lesions in the organs or their nerve-paths, is capable of reducing their secretory activity. Asthenia, sensitiveness to cold, and cold extremities, hypotension, weak cardiac action and pulse, anorexia, anaemia, slow metabolism, constipation, and psycho-asthenia are the main symptoms of this condition."

#### ADDISON'S DISEASE.

This as first described by Addison is a true degeneration or disease of the suprarenal glands. The symptoms first noticed are usually pigmentation of the skin, varied by gastro-intestinal symptoms, rapid heart and low blood pressure, marked asthenia great weakness, slight loss of flesh, mucous membrane sometimes discolored, secondary anemia. You can readily understand how difficult it is to differentiate the early stages of Addison's Disease from—

- Pernicious Anaemia.
- Exophthalmic goitre.
- Malignant disease.
- Arsenical poisoning.
- Bronzed diabetes.
- Malarial fever.
- Neurasthenia with gastro-intestinal symptoms.
- Interstitial nephritis.
- Pellagra.

The use of Adrenal Extract in cases of pigmentation with low blood pressure is thought, and I believe is, a therapeutic test of the greatest value in diagnosing Addison's Disease from other forms of pigmentation. Three (3) grains of Suprarenal Extract for three (3) days according to Grunbaum raises the blood pressure. If the rise is more than ten per cent it is excellent evidence that the case is one of true Addison's Disease.

#### HYPERADRENIA.

Excessive secretion of the adrenal glands may be either acute or chronic—may be either functional or organic, brought on by the presence in the blood of the general system any poison capable of exciting the adrenal center. Many of the acute toxic irritants pneumococcus, diphtheria and other toxins, drugs or the vegetable poisons, etc., may produce such congestion of adrenal as to stimulate secretion, and in many cases produce rupture of the congested vessels of the gland, producing an adrenal hemorrhage.

The physiology and morphology of these conditions would be interesting, but they are outside the scope of this paper.

#### PITUITARYISM.

The Pituitary body is composed of two distinct parts, which differ in their structure—in their physiological activities, and in their developments. As the result of the dual function of the Pituitary, the relation of these various activities of Pituitary Extracts to causation of Pathological processes is still unsettled. The syndrome of Frohlich is due in the main to hypofunction of the gland, while acromegaly is believed to be due to an over secretion of the gland, particularly of its anterior lobe.

Acromegaly is a disease that develops slowly, usually at the end of adolescence. It is due to a hyperfunction of the glandular anterior lobe of the hypophysis cerebri. "It causes—

- (1) An increase in the size of the aera (nose, lips, tongue, mandible, hands, feet).
- (2) Hyperplastic changes in the osseous system.
- (3) Certain cerebral and genital symptoms, and

(4) Certain changes in the other glands of internal secretion (thyroid, genital glands), with corresponding symptoms referable to the autonomic nervous system. Acromegaly is a slow but progressive process, beginning usually in the early twenties. "The outspoken cases of this disease are easily recognizable, but the beginning cases are often overlooked. Complaints of severe headache, of neuralgic pains in the limbs, of genital disturbances in the early twenties should always excite suspicion, particularly in families of tall people. Prominent supra-orbital ridges, thick lips, widened spaces between the incisor teeth, large pawlike hands, should lead one to investigate carefully the hypophyseal functions.

In doubtful cases, roentgenograms of the skull should always be made, when one or more of the following important changes may be observed:

- (1) Enlargement of the anteroposterior, or of the vertical, diameter of the sella turcica;
- (2) Enlargement of the frontal sinuses.
- (3) Irregularity in thickness of the calvarium.
- (4) Exaggeration of the external occipital protuberance." (Barker.)

It is necessary to differentiate Acromegaly from myxedema, Padgett's Disease, Rickets, Hypertrophic pulmonary osteo-arthritis.

Symptoms due to lessened secretion of the Pituitary are obesity, fat more abundant on the abdomen and thighs—changes in the hair, especially in the young, under the arm and over the pubis, scanty or absent. The hairs

of the beard may also be scanty,—faulty skeletal development due to faulty function of the anterior lobe.

Polydipsia and Polyuria (Diabetes insipidus) present in many of the cases. The skin is pale, usually soft, thin and smooth, tachycardia, asthenia, arterial hypotension are generally present.

The disturbances of the other glands such as Thymus, Gonads, Pineal, are all important, but it is not in the scope of this paper to go into the theories in conjunction with their disturbances.

### CONCLUSIONS

In this paper we have tried not to give you anything new or ultra-scientific, but it has been the author's purpose to call your attention to the importance of the internal secretory glands as positive factors of many of the conditions of ill health and invalidism, that we as General Practitioners are constantly meeting in our practice, and to impress upon you the fact that these glands are markedly disturbed by other diseased states and plays an important role in the determination of the outcome, and of convalescence. And also that simple, temporary dysfunctions of these glands are accountable for many of the Asthenic, Myatonic, and Neuraesthenic conditions that produce semi-invalidism in such a great number of our patients.

A great deal of scientific investigation is constantly being made to determine the hormones, their methods and modes of action, and developing laboratory and clinical methods for their diagnosis, and yet our knowledge must be still largely empirical, and in many conditions the administration of the glands or their extracts will make a therapeutic test that will often-times confirm your suspicion.

### DISCUSSION.

**Curran Pope, Louisville:** The question of endocrinology is one that every one of us is interested in. Endocrinology is a good deal like what Bob Ingersoll said of Shakespeare. He said that Shakespeare's thought and writings washed every intellectual shore, and so I think endocrinology touches every sphere of medicine and that in its grosser, plainer and patent forms there is absolutely very little difficulty in recognizing the condition. In the routine clinical examination that we conduct at my sanatorium, each patient is subjected to an investigation of the endocrine system, speaking of the glands as a whole, and our experience has been that it is largely a question of looking for it, to find it, but the extreme difficulty comes when we strike those

indefinite borderline conditions where not only knowledge but experience and sometimes the feminine component comes in, in the way of intuition in helping us to arrive at a conclusion.

Sometimes we arrive, in these indefinite cases, at a mixed conclusion and, as Dr. Boggess has said, we are oftentimes helped out of our difficulties and aided by the therapeutic test.

Although I don't like to, as a rule, discuss a discussor's remarks, I might say with reference to the gentleman who preceded me who stated that these three cases had been treated by a chiropractor, that he omitted to state what joy and happiness they must have had in feeling that their spines were straight.

**T. C. Holloway, Louisville:** I have been very much entertained and instructed by Dr. Boggess' paper. Dr. Boggess isn't much of a specialist, but he impresses me as being a sort of relic of that old-fashioned doctor that doesn't claim to know everything about just one little thing, but there are few things that he doesn't know something about and a great many things that he knows a great deal about, and whenever he talks to us he finds it easy to select a subject that will fall under one of those two classes.

I think his paper has brought to our attention a subject which we are too prone to dismiss with the reflection that nobody knows anything very much about it, and, therefore, I will be excused if I don't pretend to know anything about it.

Almost everybody that knows anything about the subject of endocrinology has been impressed with the fact that there is certainly a vast new world of information that we all need, that we all want to be able to use, and, therefore, it is our duty, I think, to acquire just as rapidly and just as thoroughly as possible such information as is available, as is practical and usable about this subject of endocrinology.

There are a good many other things that we don't know a great deal about, and yet the knowledge that is available is of the very highest value.

I was very much interested in his reference to tetany. Perhaps it will not be out of place to refer briefly to a case that recently came under my care presenting what to me was a very unusual condition diagnosed by my consultant as gastric tetany. I had operated on a considerable number of patients for hernia without having encountered this complication. The patient was doing well, the wound was clean, there was no evidence of any trouble. The wife insisted upon sending up to the hospital his usual bottle of cream that she had been feeding him for about a month up until the time of the operation. He was rather a skinny individual and had been required to drink this bottle of cream. After the



operation had been over for approximately a week, she sent this bottle of cream up to the hospital, thinking that now his hernia was relieved she wanted to get busy and fatten him up. He drank this bottle of cream, or part of it. Within two hours he presented a spectacle of distress which I have rarely seen equaled. He was scratching with all four extremities, rubbing his feet together, clawing at himself, completely miserable and almost insane. We did what we could to allay the symptoms which were so urgent. The combination of remedies which I sought to use in his case came pretty near killing him. In my desperation, absolutely unable to keep him in bed, I gave him an eighth of a grain of morphine. That was just like pouring water on a duck's back; he didn't respond to that. I was still in extremity and I gave him a quarter of a grain of morphine. Then he behaved very much like a man might be expected to do that had been hit on the head with a sledgehammer; he went down for the count. He became almost pulseless, almost without any effort at respiration, just collapsed. Then I discovered, in looking around for a condition that might explain it, that he had a great big dilated stomach full of something. I proceeded to wash out his stomach and he responded very nicely and it seemed he was going to be all right, but within a half hour he went down in the depths a second time. That man died on me three times that night, to all intents and purposes. I would have been willing to sign his death certificate on any one of the three occasions with the perfect assurance that he was gone, but the little nurse that was there helping in the fight said, "This is just the way he did before. Rub his hands and give him a little artificial respiration." We pumped him up and finally got him going again. Immediately after that, this unusual condition of tetany developed. The fellow got the shakes all over; his legs would begin to contract in a peculiar rhythmic way, and his whole body was subjected to this tonic spasm.

I called in one of our specialists on gastrointestinal disorders, and he recognized the condition of gastric tetany and said the man was certainly going to die. That distressed me very greatly. I asked him if there was nothing at all to do about it. He suggested we might use a little pituitrin and give him some extract of adrenalin, one to one-thousand solution. With my usual optimism about the patients on whom I have operated, I expected him to get well and I kept expecting this fellow to get well against the doleful prognosis of my consultant and the absolute certain conviction of one of my nurses that the man was certainly going to die. We kept the fight up for about a week with a good deal of anxiety, giving him pituitrin and

adrenalin. He kept going, and finally has gotten entirely well, put on weight, and is as spry as any old man of his years might be expected to be.

I don't know just exactly which one of his endocrine glands was at fault. I suppose there was a disturbance there somewhere. From an empirical observation, what we gave him was good for him.

Just in passing, I have been impressed with several of the lectures given here, Dr. Cabot's and Dr. Kennedy's and a number of the papers that touched on the point that probably after all the chief business of the physician is to do something for the fellow that is in trouble to make him feel better about it, not to carry out an elaborate scheme according to somebody's notions as to what the blood count would show and what the urinalysis should be and what his blood chemistry is and his blood pressure, and all that sort of thing, but somehow or other do something for the fellow to make him feel better.

**E. R. Palmer, Louisville:** I wish to express my great appreciation of the paper read by Dr. Boggess and to emphasize one point that occurred to me, and I believe that I am peculiarly, probably properly fixed to emphasize this point in that I am a specialist surgeon. The point that appealed to me was the fact that certain diseases that the specialists are so much inclined to treat as special diseases are practically always expressions of internal disturbances.

As was so beautifully brought out by our distinguished guest last night, Dr. Kennedy, we must all recognize that the human body is a wonderful chemical laboratory and a most beautiful and intricate piece of machinery that is self-repairing and self-regulating.

How foolish has it been to narrow ourselves down to a little particular field and treat that one lesion when the probabilities are that there are deeper underlying systemic conditions that are at the basis of the trouble. I often feel grateful for the fact that I was born and raised in the time when the specialists were not turned out as a machine process, when men didn't go into medical schools and study with the object of being specialists, but when they were made doctors first, were made to study all the ills and evils that the flesh is heir to, and then after they had looked over these various general conditions, they could see what point they felt particularly capable of coping with.

**W. F. Boggess: (closing):** I thank the gentlemen very much for their discussion.

There is no question in the mind of any modern physician about the importance of the en-

doocrine system in the function of life itself, and that in these disturbances of the functions of these glands it is not necessary that the glands themselves be diseased, that they may be functionally disturbed by almost anything that disturbs the general health of the patient. You will find them disturbed after surgery, you will find them disturbed after the infectious diseases, you will find them disturbed after focal infections, and you will find them disturbed in so many of the ills that flesh is heir to, and that much of our failure of cure in specific diseases is our failure to recognize that there is a disturbance of these endocrine systems in the disease that we are treating.

I wish I might have had time to speak of the adrenalin and the pituitrin and the wonderful relationship between these two most important of the endocrine system. I think also that we could spend a good deal of time and write a paper on the disturbances of the gonad endocrines, ovarian secretion, testicular secretion, and then the secretion of the dual glands, all of which are important.

I agree with Dr. Palmer fully when he speaks of the intricate mechanism of the human life, the finely adjusted mechanism, the interlocking relationship of one organ to another, a disturbance of one disturbing them all. I don't know a better description of that than to quote a little from John Wesley, I believe it is:

"This life contains a thousand springs

But dies if one goes wrong.

'Tis strange that a harp of a thousand strings  
Should keep in tune so long."

(Applause).

**Rural And Urban Health**—A comparison was made by W. P. Sheppard and H. S. Diehl, Minneapolis (Journal A. M. A., Oct. 11, 1924), of physical defects in university students from rural and urban districts. The physical examination records of 3,478 male students of the University of Minnesota were selected for study. It appears that students raised in villages of from fifty to 1,000 population have more physical defects than students raised in other communities. Multiple defects are also common in this group. Students raised on farms show more physical defects than those raised in towns or large cities, about the same number as those from small cities and less than those raised in villages. Students raised in towns of from 1,000 to 5,000 population show less physical defects than any other except those from large cities. Students raised in small cities of from 5,000 to 50,000 population are exceeded in total physical defects only by students from villages. Students raised in cities of more than 50,000 population show the lowest number of physical defects.

## A LESION OF THE SECOND AND THIRD SACRAL SEGMENTS OF THE CORD— CASE REPORT.\*

By LEON K. BALDAUF, Louisville.

The following case is reported for two reasons; first, because of the peculiar symptoms; and second, because of the interesting anatomical relations.

The symptoms which have been presented are two-fold: There is on the one hand the digestive side, with hyperacidity, abdominal distress and distension; and on the other hand there is the genital side, with marked priapism followed by decided discomfort in the perineal region. The lesion accounting for these symptoms has been located in the second and third sacral segments, with possibly some involvement of the sympathetic system.

The patient, aged fifty-three years, a school teacher, has complained of the symptoms which I have enumerated for the last ten years. The attacks occur usually after one o'clock a. m. and may recur four or five times before daylight. Associated with the priapism is a marked abdominal distension. The attacks have been relieved by drinking cold water or by taking a warm bath. With the escape of flatus frequently the attacks have ceased.

During the last few years a local condition has been sought which could be considered a reflex cause. The verumontanum had been treated locally; the prostate and prepuce eliminated as causative factors. With the constant association of abdominal distension with priapism an anatomical cause suggested itself, and with that in mind the exact location of the center of priapism was sought.

Howell, in his text-book on physiology, makes this statement: General Course of the Autonomic Fibers Arising from the Sacral Cord: The autonomic fibers of this region emerge from the cord in the anterior roots of the sacral nerves,—second to fourth. The branches from these roots unite to form the so-called nervous erigentes (pelvic nerve), which loses itself in the pelvic plexus without making connections with the sympathetic chain of ganglia. The pelvic plexus is formed in part also from the hypogastric nerve arising from the inferior mesenteric ganglion. Through this latter path autonomic fibers from the upper lumbar region enter the plexus. The autonomic fibers of the nervous erigentes supply vasodilator fibers to the external genital organs, and in the male constitute the physio-

\*Clinical report before the Louisville Medico-Chirurgical Society.



logical mechanism for erection; whence the name. They supply, also, vasodilator fibers to rectum and anus, and motor fibers to the plain muscles of the colon descendents, rectum, and anus. The preganglionic parts of these fibers end in small sympathetic ganglia in the pelvic plexus or in the neighborhood of the organs supplied.

With this in mind the previous history of the patient is important. Fifteen years ago while adjusting a swing (and in testing it) the rope broke and he fell on the tip of his spine. Evidently considerable damage was done, for he was confined to his bed two or three months. Careful questioning as to the symptoms caused by the injury at this time fails to disclose anything definite.

It would appear that nothing of importance occurred during the succeeding five years. Then the attacks began, becoming more and more frequent, so that now with the least constipation they might occur every night. On account of the associated intestinal symptoms, a primary origin in the intestine was considered which could act reflexly through the cord. A barium meal was given and nothing of importance was revealed. The patient was then given ten-drop-doses of belladonna three times daily and told to take a magnesium sulphate enema and to return in two weeks. There was no relief from the symptoms.

I suggested to him then one of two lines of treatment, viz; either a lumbar puncture, or sacral anesthesia. I felt that probably the removal of fluid which might contain foreign substance might relieve the condition or with sacral anesthesia the source of irritation might be eliminated, and if this irritation was relieved for any length of time the sacral anesthesia might be repeated.

I might say, that the neurological examination was negative. There were no sensory disturbances of any kind. The reaction to heat, cold and light touch, was perfectly normal. There was, however, on deep pressure some tenderness over the sacrum.

The patient objected to both of the suggestions as to treatment, and to satisfy both him and myself I asked him to let me get the opinion of two outside neurologists.

In answer to my letter, Dr. Willaim Spiller, of Philadelphia, considered the possibility of a lesion in the sacral segments, and also some lesion involving the sympathetic ganglia. The letter which I received from Dr. Archambault, Dr. Henry Hunn's successor, at Albany, N. Y., was as follows: I believe your patient had a minute hemorrhage (hematomyelia) at the level of the second and third sacral segments of the cord, at the

time of his injury, which subsequently left a neuroglial cicatrix with consequent irritability of the erection center located at this level.

This seems to me the more probable as the priapism is in great measure associated with conditions (colonic distension) liable to occasion reflex disturbance in the sacral autonomic (parasympathetic cell) complex. I have no other explanation to offer, and would limit the ingestion of water after six o'clock p. m., and combat the intestinal atonia or fermentation.

Dr. Spiller suggested, because the symptoms appeared always at night, that the patient be forced to lie on his side, and that mechanical contrivances be used that would make it uncomfortable for him to lie on his back.

### DISCUSSION.

**Cuthbert Thompson:** I understood Dr. Baldauf to say his patient had no symptoms except local ones, for five years after the accident described.

Disease or injury of the cord in the region of the second and third sacral segments could give the symptoms which he describes, but I cannot see how these symptoms would be delayed for five years and then only appear periodically when the patient is in the recumbent position.

This irritation of the cord might be due to some other organ which has a sensory connection with this segment of the cord. Another cause might be irritation of the afferent autonomic nerves or the sympathetic ganglia to which they are connected in the pelvis; pressure on these when the patient is in the recumbent position might cause recurrence of symptoms.

It is however, possible that the accident this man had has no connection with his present symptoms.

**J. Garland Sherrill:** In connection with the case reported by Dr. Baldauf, I think it might be well for those interested to read Erichsen's monograph on concussion of the spine written about thirty years ago. At that time there was considerable discussion and argument concerning injuries to the spine, railway spine, spinal damage from falls, jumping from heights, etc., attended with obscure symptoms. Erichsen wrote a very clever treatise on the subject and with a few minor changes it would serve as an excellent guide today in the handling of these cases.

There can be no doubt that a severe fall alighting on the pelvis might cause a lesion as high as the second lumbar vertebra in the cord. Extradural hemorrhage might then occur causing pressure, and later during the process of absorption the symptoms might subside. Afterward there might be thickening of the dura, or tissues adjacent to the dura, and produce symp-

toms; but I cannot believe there would be any interruption of the symptoms, present, if they were due to the injury as described by Dr. Baldauf. The injury would either be progressive with destruction of cells in the cord, or there would be progressive amelioration of symptoms; there would be no recurrence of the manifestations unless due to neoplasm which formed in the cord at that time. In the presence of neoplasm, the symptoms would not be interrupted, they would be persistent; the abdominal manifestations would not be intermittent but would be constant; likewise in trauma sufficiently severe to produce damage to the cord, the symptoms would be constant and progressive or at least constant and steady.

We know that a distended rectum or urinary bladder tend to cause penile erections. We also know that abdominal distension from gas or otherwise with irritation of the sympathetic nervous system will act reflexly and reach the periphery, in that way exciting priapism.

It seems to me that, after taking all these things into consideration, there are only two important factors: One is the presence of a local lesion in the cord, which is unlikely because the priapism is not constant but intermittent. The second is irritation in the alimentary canal, urinary bladder or some site of distribution of the sympathetic plexus of nerves supplying this region, and this acting reflexly on the cord which may have been damaged fifteen years ago and thus inducing abdominal distension and priapism. It must not be forgotten that abdominal distension may be the sole causative factor, gas pressure from the intestinal canal acting reflexly may cause priapism.

**W. E. Gardner:** The case reported by Dr. Baldauf is very interesting and I believe unusual. His report recalls to my mind a case presented before the Jefferson County Medical Society several years ago. The patient was a middle-aged man who had syphilis, and also a localized lesion in the sacral portion of the cord with symptoms similar to those related by Dr. Baldauf. The question was raised at the time whether the cord lesion might not be syphilitic in origin. The man had urinary symptoms, priapism, etc., and abdominal distension. The symptoms were somewhat indicative of transverse myelitis in the lower portion of the cord.

I am inclined to endorse what Dr. Sherrill has said about Dr. Baldauf's case.

**Leon K. Baldauf (closing):** Dr. Sherrill has outlined many of the weak points in the case reported; and I considered them weak points when the paper was written. Although a thorough anamnestic investigation was made, no de-

finite history could be obtained during the five years which elapsed after the injury. He claimed to have been confined to bed for two or three months, and was then apparently without symptoms for five years.

We thought there might be a primary lesion in the intestinal tract, which, acting reflexly on the cord, gave rise to the disturbance described, especially as the patient maintained that when constipated the attacks of priapism were more severe and frequent. Bearing this in mind a barium meal was given, but nothing was developed. We also advised him to empty his rectum each night before going to bed. We thought the addition of magnesium sulphate to the enema would be more effective than plain water. He took such an enema every night for two weeks, and full doses of belladonna were administered to overcome any spasm that might exist in the intestinal tract; at the end of two weeks he reported that the symptoms had not improved, if anything they were aggravated.

One of the weakest points is that there is absolutely no history of sensory symptoms. Repeated inquiry was made but no definite information of sensory disturbances could be obtained. However, as he was confined to bed for two or three months there must have been serious injury to the lower portion of the spine.

I am inclined to agree with the explanation given by Archambault,—and I think he is the best neuro-pathologist in this country outside of Spiller. He maintains that the patient had a minute hemorrhage (hematomyelia) at the time of the injury, and that the irritative symptoms appeared only after organization of the blood clot. He thinks the reason the symptoms were late in appearing was due to the fact the neuroglial cicatrix did not develop until late in the history of the case.

I might say, in connection with Dr. Gardner's remarks, that this man gave no history of venereal disease and his blood Wassermann was negative. He refused to permit spinal puncture.

Following injuries to the spine, lumbar puncture often discloses spinal fluid that is colored owing to the presence of disintegrated erythrocytes. I thought even if this man had an injury of the sacral segment of the cord spinal puncture below might give valuable information. Lumbar puncture might have liberated foreign material which was irritative to the cord.

The pain attending the attacks of priapism was severe. He occasionally has four or five attacks during the night, and the following day he complains of extreme tenderness in the perineal region. He has become very nervous from loss of sleep and pain.

There has been no mental deterioration, the man is highly educated and intellectual. His



urine is perfectly clear and urinalysis is negative. I have examined centrifugalized specimens on numerous occasions and not a single abnormality was found. His prostate is normal and there are no calculi present.

The point made by Dr. Thompson is important: Did this man, when he fell have an injury to the sympathetic system in the pelvis, or did he have an injury to the cord? That is the question to be decided. We know that the center in the second and third sacral segment sends out fibers that unite with fibers of the sympathetic, and the question arises did the man really have a lesion in the cord or in pelvis? Did he have a small hemorrhage and as a result did these nerve fibers become involved in a cicatrix or blood clot? Spiller takes the position that there was a lesion in the sacral segments and also the sympathetic ganglia. He says "it seems improbable, although I will not say it is not in the cord." If the man has a lesion of the cord we would naturally expect him to show some gross sensory symptoms. He is a very intelligent man and responded promptly to all the sensory tests. The reactions to heat, cold, etc., were perfectly normal. The only physical finding of importance is a point of tenderness over the lower portion of the sacrum. The whole proposition resolves itself into this: Has this man an injury to the cord, or is there an injury to the sympathetic system? I feel certain it is one of the two, or it may be both.

With reference to the treatment suggested: He has rebelled against the measures proposed. I think there are two things which ought to be tried. First, a lumbar puncture ought to be made, and if there is any foreign material present it ought to be removed, and this procedure should be repeated more than once. Second, since sacral anesthesia is practically devoid of danger, this procedure ought to be employed; if temporary relief is thereby produced it may be repeated several times if necessary and in that way some good might be accomplished. Something must be done as the man is losing sleep, his rest is disturbed by the attacks of priapism, he is becoming very nervous, and is showing the effects of these symptoms in his physical status.

**Carcinoma of Stomach in Young.**—Sullivan's patient was 222 years of age. The chief complaints were epigastric pain of four months' duration, and loss of strength and weight. The operative procedure consisted in a partial gastrectomy of a modified Billroth II type. The duodenal stump was inverted and held by three layers of purse-string sutures of chromic catgut. Anastomosis was made close to the cut end of the stomach with fixation of the transverse mesocolon well above the gastric suture line. The tumor proved to be a carcinoma simplex.

## FOCAL INFECTIONS FROM THE VIEW- POINT OF THE INTERNIST.\*

By R. H. COWLEY, Berea.

Most of the great discoveries which have changed the profession of medicine from an art into a science have been made during the last thirty-five or forty years. To be sure smallpox vaccine and the discovery of micro-organisms date somewhat further back, however the application of the great principles of immunity and antiseptic surgery to every day practice is largely within the memory of many of us here. When we think of the mass of scientific facts accumulated during the last twenty-five years we wonder that the secrets of focal infections were not brought to the light of day much sooner than they were. We were all acquainted with the fact that if a mule kicked a boy on the shin the boy was very apt to develop osteomyelitis. We knew that the germs did not penetrate the unbroken skin and thus reach the bone marrow. Heated discussions were carried on as to whether the infection reached the injured part by way of the blood or the lymphatics as though that made any real difference. The question which should have absorbed our attention was how did the infection get into the body at all; why did it happen to locate itself in the bone and nowhere else, and how could such entrance and location be prevented. I well remember a case which I had about fifteen years ago. A whole family was taken with the grippe. The father and children recovered promptly but the mother, after slight improvement, suddenly had a violent chill, temperature jumped to 105 leucocytes to 50,000 and there was excruciating pain over the right kidney. On removing this kidney it was found studded with beginning abscesses and about twice normal size. The temperature dropped to normal and there was immediate and complete recovery. I was then at a loss to account for the origin of this infection and to answer the question why had it centered so violently and exclusively in the one kidney. I remember being told by a prominent Cincinnati surgeon a number of years ago that he and his colleagues expected a batch of appendix operations shortly after every wave of acute infectious diseases, like the grippe and tonsillitis. Today, of course, we would know that during the attack of grippe or tonsillitis the bacteria may flood the blood stream and if they do they may, by a process of specific affinity, localize themselves in one kidney, the appendix, gall bladder or

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.

a hundred other places, leaving the rest of the body apparently entirely unharmed. We still do not know what this elective affinity is which determines the location, but if we do not have another war to kill off the rising generation of scientific research men, we may confidently hope that even this obscure fact will be explained before many years.

There are two facts about infections which we do know now with absolute certainty. The first is that bacteria confined in various foci in the body may multiply and, overcoming the protective forces of the host, escape in large numbers into the blood and find lodgment in some distant organ causing there a pathological process, the symptoms of which will vary according to the location and the severity of the infection. This we call metastatic or secondary infection.

The second known fact is that the bacteria at the point of the original focus may multiply in loco and pour out their toxins into the blood stream without ever escaping into the blood themselves. These toxins too seem to have a specific affinity for certain definite tissues and they cause trouble in whatever tissues are most susceptible to their influence.

Here we may have hypertrophic osteoarthritis, hyperthyroidism of such generalized diseases as anemia, neurasthenia and general debility. The degree of this general debility may be so great that the patient is put down as a tubercular. I have known several patients who have been sent away to another climate as tubercular where the extraction of an infected tooth cleared up the whole trouble. Tuberculosis should never be positively diagnosed without positive evidence.

That these conditions are due to toxic and not to metastatic lesions is proven by the rapidity with which they sometimes clear up after the original focus has been removed. The most striking example of this condition that has come to my attention was that of a woman who had suffered terribly from sciatica for several months, was absolutely helpless in bed and had had every possible treatment including removal of all suspicious teeth. She recovered over night on removal of her tonsils and had no subsequent trouble.

For the positive proof of the first of these facts, namely, the fact of metastatic infection, we are indebted to Rosenow more probably than to any other single investigator.

I think, at this time, we ought to refresh our minds as to what constitutes proof when we are considering the bacterial cause of a disease. Most humans, and unfortunately doctors are no exception to the rule, are exceedingly credulous. If we are to pose as

scientific men, we must keep ever in mind the laws first formulated by Koch, the fulfillment of which is necessary, before we can consider the causative relationship between a micro-organism, and a disease as proven. These laws are:

First. The organism in question must always be found in the disease and in such association with it as to make it reasonably sure that it may be the cause of the process.

Second. The organism must be isolated and grown on artificial media outside the body.

Third. It must, on being injected into a susceptible animal, reproduce the identical disease in that animal.

Fourth. From the diseased organs of this animal, the organism must be recovered in pure culture.

Rosenow's work on the subject of focal infections fulfills all of Koch's laws. It is classic and, together with similar work done by others, marks an advance in medical knowledge second to none since the days of Pasteur, Lister and Jenner. We now have a clue to the causation of practically all internal diseases.

Before reviewing the diseases which we know are due to focal infection, it might be of value to rehearse the methods used by Rosenow in arriving at his conclusions. First, he found in the lesions of gastric ulcer, cholecystitis and appendicitis the same organisms which were recoverable from the lesions about the teeth and tonsils of his patients. He next tried feeding these organisms in large numbers to susceptible animals but with negative results. He then injected these organisms into the blood stream and peritoneal cavity of the animals and here a remarkable thing happened. Not only did the organism from the gastric ulcer and from the tonsils and teeth of the same case localize in the stomach and duodenum of the injected animal but it practically limited itself to this location. The other organs were practically free from infection. Organisms morphologically identical with those taken from the gastric ulcer, when they originated in the appendix would, on injection, localize in the lower bowel or appendix. Organisms were tested out from various organs including the kidneys and genito-urinary tract and, when injected into the animals, would, in the great majority of cases, localize in the organs from whence they had originally been isolated. And so he came into possession not only of proof of the fact of focal infection as the cause of these diseases but also of the fact of elective localizing power of the same organism, a fact which accounts, not only for



the presence of the metabolic infection, but also for the fact that the disease locates itself in that particular organ.

Messier and Bumpus of the Mayo clinic have reported six cases of submucous ulcer of the urinary bladder in which they have found the same organism. *Streptococcus viridens* in either infected teeth or tonsils or in both. They rejected these organisms into dogs and produced identical lesions in the urinary tract and in practically no other part of the body. Other investigators have confirmed these findings until we have a mass of evidence which is absolutely conclusive. What and why this elective localization is and by what forces it is brought about we do not know any more than we know why polymorphonuclear leucocytes are attracted by what we call positive chemota is to an infected area.

Rosenow has also shown that organisms vary markedly as to their behavior according to the amount of oxygen present in the media in which they are growing. He used shake cultures in long tubes of ascites dextrose-agar where the amount of oxygen varied with the depth from the surface. He found that the same organisms grown at various depths and consequently in the presence of varying pressures of oxygen varied both in their characteristics of growth and in their elective localization. Those grown near the surface on injection being localized in organs having an abundant oxygen supply as the lungs and those grown near the bottom where the oxygen pressure was low having an affinity for structures poor in oxygen such as the joint surfaces, heart valves, tendons and fascia. Thus the same organism grown under different environment as to media and oxygen assume characteristics which are as different as though they were really different organisms. In fact in some of his experiments, he seems to have actually changed streptococci into pneumococci. Whether this has been confirmed by other investigators I do not know, but if it has, it opens up wonderful possibilities.

With these facts in mind, we will now pass in review some of the disease conditions which we know are caused by focal infections and in this I shall follow the order of Dr. Barker and consider, first, diseases of the locomotor apparatus such as infectious arthritis, hypertrophic-osteo arthritis, osteo-myelitis, myositis and fibrositis. Of these diseases infectious arthritis is best understood. While only a few years ago the relationship between this disease and focal infections was a matter of speculation, it has now been established be-

yond the possibility of a doubt. Rosenow and others have repeatedly produced the disease by injecting cultures taken from the infected teeth and tonsils of patients with the disease into the blood or peritoneal cavity of dogs.

Second comes diseases of the circulatory system. There is nothing more sure than the relationship between foci of infection in the teeth and tonsils and sinuses and endocarditis. The fact is that when we have diagnosed endocarditis, we now instinctively start our hunt for the focus from which the infection came and we usually find it in young people in the tonsils or sinuses, while in older people, it is more commonly found at the root of an infected tooth.

Aside from these localized metastatic infections which are directly traceable to a focus of infection, there is little doubt that serious forms of anemia, lesions of the heart and blood vessels causing arterio sclerosis and high blood pressure may be due to the same cause.

Third, diseases of the digestive tract. As recently as 1919, when Dr. Barker read his paper on oral sepsis and internal medicine, he said "whether a gastric or a duodenal ulcer ever arises as a consequence of oral infection is a question." Since then, it has been proven definitely that these ulcers are probably always blood borne except in cases of direct mechanical injury.

Fourth, diseases of the genito-urinary system. Dr. Charles Mayo says that stone in the kidney is bacterial in origin and construction, and Rosenow's experiments have confirmed this. Infection of the teeth of dogs with streptococci from the urine, infected teeth and tonsils of patients with nephrolithiasis have produced calculi in the pelvis of the kidney similar to those found in nephrolithiasis in man. He says it is impossible to escape the conclusion that primary urinary calculi are often due to streptococci, which have an elective affinity for the urinary tract and specific power to incite their formation.

In this connection, I wish to report a case which is of more than ordinary interest. The patient, a man of forty-five, had an old middle ear disease with acute exacerbations. When I saw him, he had pain over the whole right side of the head with localized tenderness over the mastoid tip. X-ray of the mastoid showed sclerosed bone. X-ray of the teeth showed one bad apical abscess. The urine was filled with casts and heavy with albumen. There were many red blood cells present. The tooth was extracted and a little later, in spite of his desperate kidney condition, the mastoid was cleaned out. Pus under pressure was

found in the mastoid and inside of a few days his general condition was much improved and the urine cleared up almost completely. There is little doubt that the old mastoid trouble was lighted up by the tooth abscess and in its turn caused the hemorrhagic nephritis which so nearly killed the patient.

Over fifty such cases of hemorrhagic nephritis, following mastoiditis, have been reported.

Fifth, diseases of the nervous system. There can be no doubt but that neuritis of various sorts is directly traceable to focal infection. Here we are almost surely dealing with a toxemia and not a metastatic infection. Practically every nose and throat man with whom I have talked has had one or more cases similar to the one I have mentioned, where sciatica or some other neuritis, has cleared up over night on removal of infected teeth or tonsils. Aside from these more or less definite diseases, we have many indefinite functional troubles where the mentality of the patient is affected to such an extent that they have to be confined in asylums. One cannot read the reports of such men as Cotton of the N. J. insane asylum without being convinced that he is decidedly on the right tract. To be sure his work lacks the direct laboratory proof which characterizes Rosenow's work and is necessary to make it scientifically exact, but I believe such proof will be forthcoming in time. He has taken the inmates of the asylum and given each an exhaustive physical examination, including eyes, nose, ears, throat, chest and abdomen with X-ray and laboratory work where indications seemed to call for it. He found 100 per cent with bad teeth, about ninety per cent needing tonsillotomy, many with infected sinuses, many with intestinal stasis and colon infections. While some of his statements concerning the role of infected lower bowel in the causation of diseases seem like those of Dr. Reed of Cincinnati to be rather fantastic and, to say the least, lacking in positive proof, still there is food for thought in all his statements.

He says that for ten years prior to his work, one-third of those admitted were sent out again apparently cured and two-thirds were kept confined. For the four years during which he has been doing his work, two-thirds have been sent out and one-third has been kept confined. A wonderful record. He reports one case which had been in the institution for six years where the extraction of one badly infected tooth was followed by complete recovery. He says what we would think must be true that in many of the neglected cases the toxin has been in the system so long

that even after the removal of the original focus the nerve tissue is so affected organically that no cure may be expected. What he hopes is that the general practitioner will become so alive to the possibilities of these cases that the cause will be removed long before the cerebral trouble becomes evident. If even half of what he says is true, it opens up a new area in the prevention and treatment of insanity.

And if even a few of the insane are so because of focal infections what shall we say of the lesser nervous disorders, such as hysteria, neurasthenia, and the various neuroses. True, these cases may have an unstable nervous system, but it takes the debilitating effect of a focal infection gradually and continuously pouring poison into the system to undermine the resistance of the patient and bring about the actual neurasthenic condition.

Six. When we come to diseases of the endocrine system, we are on still more doubtful ground but yet there are few of us who have not seen cases with symptoms of hyperthyroidism where we were morally sure that the cause lay in diseased tonsils or teeth. In fact, the exacerbations of the disease often follow so closely on an acute attack of tonsillitis that we are sure of the relationship.

Now it is perfectly fair to ask the question if these disease processes are due to foci of infection in the teeth, tonsils, or other locations, why is it that they do not always and at once clear up when the foci are removed. The answer is two-fold. In the first place, it is sometimes exceedingly difficult to be sure that even the original focus has been found and, secondly, when metastatic infection has once taken place in a distant organ, be it joint, heart, valve or stomach, this secondary infection may lead an independent existence and may become, in its turn, a source from which other metastatic infections originate. The truth is, however, that, owing to the wonderful defensive mechanism of the body, secondary infections do tend to clear up after the primary focus is removed. It may take time, but it usually happens. Of course, destructive processes, at the seat of the secondary infection, where the functioning part of the organ attacked has been replaced by scar tissue, can never be made good and the organ will be more or less permanently crippled. Only the active infective process can possibly be cured by any means. The scar tissue always remains. One point we should always remember, and that is, that while the teeth and tonsils are the greatest offenders, they are by no means responsible for all these



secondary infections. The paranasal sinuses, the skin, the lower bowel, the urogenital organs, all come in for their share of blame, and when we are confronted with a condition which may be due to focal infection, we should not stop until every possible source has been investigated.

Speaking of the part played by the lower bowel in these infections, H. Leslie Roberts, in the *British Journal of the Dermatology and Syphilis* says, "The special distribution of the lymphoid tissue in the region of the throat and in the lower bowel is interesting. In between the lymphoid tissue is space and irregular. At these two sites infections are more numerous. In the throat from streptococcus, pneumococcus, meningococcus, staphylococcus and the viruses of the various exanthems and other diseases. In the lower intestine from typhoid, paratyphoid, dysentery, tuberculosis and others. In the intervening localities few infections occur.

Now that we have our case established what are we going to do about it? The answer is that there must be close cooperation between internists, head specialists, roentgenologist and oral surgeons in ferreting out the cause of all internal diseases. The time is fast approaching when a doctor will be held strictly accountable by his patient if he neglects to at least consider focal infection as the cause of almost any systemic disease.

Dr. Barker says we may get some help from the fact that, in children and adolescents up to the age of twenty, we will oftenest find the source of the trouble in the tonsils and in later life it will oftenest be found in the teeth.

We have all seen chronic cases of various kinds wander from one doctor to another in search of help, carrying with them a pair of rotten tonsils or a mouth full of rotten teeth. One of our best surgeons just lately has been frank enough to report a case on which he performed a second operation for gastric ulcer and it was only when the patient presented himself for a third operation that his teeth were X-rayed and the source of the trouble found.

When it comes to determining whether or not the teeth are the source of the trouble, we have no better recourse than the X-ray. However, it is very important that the plates should be interpreted by some one who thoroughly understands his business. I think it is quite generally admitted now that a tooth does not have to be devitalized to be the source of trouble.

When it comes to the tonsils, I do not believe the man lives who can tell with certainty that the tonsils are not the source of trouble.

When they are evidently diseased, any man of ordinary ability can find the trouble, but there are cases, and they are not few either, where the tonsils appear quite normal even on pressure and still the history, suggestive of focal infection where no other source of trouble can be found, warrants their removal on suspicion. Often when the tonsils are removed, the one which seemed normal, on examination, proves to be the one most diseased.

I do not believe that cultures taken from the tonsils are of any value in determining whether or not the tonsils should be removed.

#### ATTENTION OF ALL EX-SERVICE MEN IS DIRECTED TO THE FOLLOWING LETTER

Louisville, Kentucky  
September 30, 1924.

"Col. Irvin Abel, Med.-ORC  
700 Francis Bldg.,  
Louisville, Ky.

Dear Sir:

Please be advised that ex-officers with World War service may be appointed in the Officers' Reserve Corps in the highest grade held by them during such service, upon inspection of their military records in the War Department, provided their applications are submitted prior to or not later than November 11, 1924. After that date, all applicants will be required to pass a professional examination, regardless of the fact that they have had prior commissioned service.

It would save individuals concerned the trouble of taking the professional examination if they would submit their applications for appointment before November 11, 1924.

Will you please acquaint all ex-officers with World War service, whom you know, with the above facts? Applications will be received under the foregoing policy up to and including November 11th. This office will be glad to handle with expedition, all applications for appointment in the Officers' Reserve Corps in any grade or branch, from those interested.

Thanking you for any effort you can spare for this activity, which is vitally important, and through which it is hoped to add to the rolls of the Officers' Reserve Corps many names of Kentuckians or others who were officers during the World War, I am,

Cordially yours,

KIRBY WALKER,  
Colonel, Cavalry, (Dol),  
Chief of Staff."

Application blanks will be furnished by the undersigned upon request.

IRVIN ABELL,  
700 Francis Bldg.,  
Louisville, Ky.

## ACUTE INJURIES OF THE BRAIN.\*

By G. A. HENDON, Louisville.

In considering influences affecting the brain it is obvious that pressure and infection are the most frequent and therefore, most important offenders and continued combination of the two is almost always fatal. In all our surgical efforts prophylactic measures against these two agencies should be held in highest esteem. Complete fractures of the skull is most likely to cause either one or both; severe trauma without fracture is apt to cause pressure alone. Fracture without displacement is most apt to cause infection alone. Foreign bodies and disintegration of brain tissue will produce local infection, brain abscess.

The meninges, arachnoid and pia mater are the brain structures, the easiest to infect and most destructive in consequence of infection. The base of the brain is most gravely affected by pressure and infection and in that region, pressure is attended by most serious consequences. It is worthy of note that fractures of the base are most likely to convey infection because they communicate with either the nasal, buccal or aural cavities, which are store houses of pathogenic germs. If a patient when first seen is suffering from both infection and pressure and it is in our power to relieve either one by so doing we lighten his load and enhance his opportunities for recovery.

If the pressure is due to the products of infection the case is more serious; also, if the infection is a sequence of pressure the chances for operative relief are reduced very low but in either event the patient should have the benefit of surgery.

It is essential to intelligent treatment to have a thorough knowledge of the manner in which pressure is produced as well as to know the signs of its existence.

In this paper we are not dealing with neoplasm or hydrocephalus or kindred affections but we are limiting ourselves to acute injuries, therefore, we will only consider traumatic causes. It is only in recent years that the fact has become recognized that traumatic pressure may be either localized or diffuse and that both are amenable to surgical treatment.

Diffuse pressure might be more accurately visualized if the word tension is employed. The force is distributed from within the substances of the brain toward the periphery

and against its unyielding bony covering, the skull.

The restraint of brain expansion by the bones of the skull is another way of expressing the condition, a certain amount of expansion is provided for by the circulation of the fluids enveloping the brain, but when the limits of this provision have been reached the effects of pressure are made manifest in a degree of corresponding ratio.

The most usual cause of expansion is the myriad of punctate hemorrhages that follow certain variety of injuries.

In addition there often occurs, as result of injury, vascular dilation of the cerebral vessels and in consequence transudation of serum into the brain substance. A condition is, thereby, produced which might be roughly denominated as dropsy of the brain but is referred to as cerebral edema.

Infection of the meninges and envelopes contaminate the brain substance and produce general cerebritis with the inevitable swelling of inflamed tissue.

Localized cerebral infection is most likely to be circumscribed and form a distinct abscess producing focal symptoms but on occasions diffusion occurs with general expansion of brain structure and a rapid fatal issue.

Local pressure is produced by clots, depression of bone and the presence of foreign bodies. Foreign bodies that penetrate into the substance of the brain often fail to produce immediate symptoms but serious remote effects can be counted on with remarkable certainty. Clots are extra dural, cortical, ventricular and intracerebral and so are foreign bodies.

The accompanying focal symptoms enable one with a knowledge of the outlines of brain geography to calculate close enough for practical purposes the location and extent of the impingement.

Next, we will consider the second disaster that follows in the wake of head injuries.

Infection is its name. It most usually attacks the meninges and the enveloping membranes, in which event the result depends upon volume, virulence and vital resistance. In the event there is a foreign body penetrating the brain structure or an unabsorbed clot, abscess is the result provided such sources of irritation are allowed to remain beyond reasonable period of time.

The agents of infection gain entrance through openings in the skull and the blood stream. That fact is responsible for the importance of fracture in the prognosis of a given case. Fractures of the base which communicate with the buccal, nasal and aural

\*Read before the Kentucky State Medical Association, Crab Orchard Spring, September 18, 19, 20, 1923.



cavities are, thereby, rendered very serious in their results; also, the hemorrhage, which is inveterately associated with fracture admits of clot formation in a region inhabited by the centers of automatic vitality, that respond to the slightest insult in the most depressing way. It is very astonishing, the amount of laceration and destruction of brain tissue, that can be borne with impunity by the frontal lobes and it is equally as astonishing how slight an injury of the base will produce fatal results.

Brain injuries vary in degree from the merest sensory disturbance to disturbance to sudden fatality.

The pathology of slight affection is found in vibratory response to trauma. As a ground swell is related to an earthquake in its effects, so is a minor injury of the brain to a severe one.

Vibrations of brain structure produce effects varying in severity from the slightest impairment of function to inhibition and suspension and abolition. When the limits of vibratory response have been exceeded by the force of the blow, solution of continuity occurs and actual lesion is established. The art of both prognosis and diagnosis is much enriched by a proper consideration of these factors.

Treatment should be based upon the character of the injury and its location.

The first point to determine is whether the patient's infirmities are due to vibratory response or pressure or infection. Around each of these a group of symptoms collect themselves.

Group 1. Transitory loss of consciousness, temporary confusion of ideas, slight nausea and brief period of shock. Denotes vibratory reaction.

Group 2. Belongs to diffusion of pressure from cerebral expansion. Somnolence increase of pulse, pressure low rate, muscular relaxation and weakness, marked sensory disturbances and mental aberration.

Group 3. Belongs to localized pressure and depends upon the region and area under impingement. I may repeat here that pressure is exerted by clot, foreign body, and depressed bone. If by clot, the symptoms are progressive. If by depressed bone their maximum intensity is reached at once.

If the clot is extra dural a definite period of freedom exists between reception of the injury and advent of the focal symptoms. The prognosis is favorable. The symptoms are distinctly focal and associated with sensorial disturbance that are progressive in type.

Group 4. Belongs to cortical location of clot and is subdivided into Frontal and Basal locations.

Frontal clots may produce focal symptoms of maximum intensity. Severe brain irritation is evidenced by a marked sensorial disturbance like coma convulsion or active delirium and high blood pressure. Basal clots produce interference with the vital centers according to their location and dimensions. There are usually no distinct focal signs but deep coma and great embarrassment of respiration. The blood pressure is so variable that it cannot be regarded as a criterion.

Group 5. Belongs to intracerebral clot and it occurs independent of injury; is called apoplexy, when associated with injury it is nearly always fatal and rapidly so. It produces deep coma and grave involvement of the vital centers.

Group 6. Designates ventricular involvement and may be caused by either blood or serum or foreign body in the ventricles. Convulsive seizures in addition to coma and shock characterize this type of brain involvement.

Group 7. Connects with depressed bone shows maximum intensity at once and can be recognized by a perceptible displacement of skull fragments.

Group 8. Connects with cortical impingement of foreign bodies and is similar to Group 4 except that the symptoms are not progressive.

Foreign bodies which enter and become buried in the brain tissue are noted for the frequent absence of immediate symptoms and the remarkable certainty with which they can be relied upon to cause remote effects.

Group 9. Is associated with laceration of brain tissue and comprise fungus cerebri. Periods of somnolence alternating with delirium and excitement, high temperature and rapid pulse.

Group 10. Is composed of symptoms of infection and depend upon the extent and location of the tissue change. If the meninges and brain envelopes are involved high temperature and delirium and rapid emaciation are the outstanding features. Symptoms begin their appearance in 48 hours after the injury.

Localized infection assumes abscess formation, which is in itself a subject for an entire paper and will not be dealt with at this time. The two immediate objects of treatment are relief of pressure and drainage. In planning any surgical procedure of the

brain it should be understood that these two things are all that can be accomplished unless plastic operations are included.

It is fortunate that both can be accomplished by the same operation at the same time. The momentous question is when is operation indicated and I answer that question in the following way: When in doubt and when the indications are positive, operate. The contra indication for operation are the two extreme degrees of injury.

In the presence of a manifestly trivial injury, no operation is needed. In hopeless cases operation is unjustifiable. Discrimination is made easy by bearing constantly in mind the only two things that operation will accomplish, relaxation and drainage.

It is quite useless to discuss the indications for operation for plain cases, I would rather employ the time allotted to me in the discussion of the indications for operation in cases of doubtful operative propriety. For example a person sustains an injury to the head, that produces symptoms of serious mental aberration but there does not appear to be any evidence of fracture of the skull. There are no focal symptoms, no disturbance pupil reactions and no paralysis but the patient is either unconscious or semi-conscious or there are convulsive seizures of certain groups of muscles of the whole body.

He refuses fluid and nourishment. Has to be catheterized. The respiration is 12 or 16 per minute and noisy and slightly irregular. Perhaps the patient will respond to questions shouted in his ears, using always monosyllables in reply.

The question is shall this patient be operated or not? Taking the above hypothetical case one should be guided by the progressive-ness of the symptoms, by pulse pressure, spinal pressure and papilledema.

If the coma grows more profound instead of remaining the same or becoming lighter, then in my opinion, operation is indicated.

If the pulse pressure is equal to or greater than the pulse rate, decompression is indicated.

If the papilledema shows increase operation is indicated.

If spinal pressure advances to 10 MMHg as shown by the mercurial manometer, decompression is indicated. In cases of this type the subtemporal operation is the operation of choice. It can be done with very small risk.

The technique as described by Cushing is to split the temporal muscle and trephine the skull in its thinnest part with a Hudson drill.

Then with Ronguer or Devilbiss forceps enlarge the opening, as may be required. Incise the dura and place in a small drainage tube beneath the temporal lobe. Through a tube thus situated clots may be irrigated from the middle fossa of the brain. The operation is much more effective if bilateral. The split muscle is sutured, also, the skin and no scar or depression remains.

Let us suppose another kind of case. A patient without injury acts queerly or complains of intense headache. Has a choked disc, gradual decline of vision, has vomiting spells, slow pulse, vertigo, dizziness. This is a neoplasm or an abscess and calls for prompt subtemporal decompression. If the symptoms are due to an abscess, the decompression will determine the yielding point and either result in spontaneous rupture and drainage or locate the point of incision or aspiration. If a neoplasm, room for cerebral expansion will have been provided.

Eyesight saved and a respite of symptoms over a considerable time secured. There is another class of injury that demands a different operative technique. A patient has received a palpable fracture of cranial vault. There is depression of bone and focal symptoms, as inequality of pupils, facial paralysis and hemiplegia. This type demands not only decompression but the removal of blood clot or depressed bone that is exerting pressure over a definite brain area. This is the kind of case that requires breadth of exposure and this indication is met by the osteoplastic flap raised from the parietal eminence. A pear shaped incision is made through the skin and down to the bone, small end down. Four holes are drilled in the skull with a Hudson bit, two above and two below. They are connected by a groove cut with a Devilbiss forcep. The attachment of the skin preserved. The small or shortest end is sawed with a Gigli saw. The flap prized from above breaks below along its shortest diameter. The bone with scalp attached is swung downward exposing an extensive area of dura covered brain to inspection. If there is no extradural hemorrhage, the dura is incised by crucial incision, a rubber tissue drain inserted between dura and arachnoid, the flap swung back into place, the scalp closed with silk worm gut sutures, the plastic flap, all practical indication can be met. Tension is relieved, depression elevated, removed and meningeal hemorrhage controlled and after the operation is finished, no bony defect of consequence remains.

There is another class of patient, in which there is no rule of action or standard of



procedure. I refer to the very apparent basal fracture. The patient has received a very severe injury. Blood and brain fluid issues from the ears. Breathing is loud, stertorous, and irregular. Coma profound and complete. Orbital hemorrhage and weak pulse. Such a case, I should say belongs to the hopeless class and should not be permitted to reproach surgery by adding to its mortality.

It might be said with emphasis and authority that following head injuries the decision to operation in doubtful cases should be made within 48 hours of the injury. Otherwise, it is best to delay the operation until a period when sequelae, such as nervousness and abscess or epilepsy begin to make their appearance. For relief of remote symptoms of injury the osteoplastic flap operation is indicated, on account of the extensive area for manipulation and inspection it affords. I cannot refrain in this connection from calling attention to the trite observation of some of the older authors, to wit that, "there is no injury of the head so slight, as to be considered trifling and none so serious, as to be regarded as hopeless."

Ventricular aspiration and spinal puncture are measures of recognized therapeutic value but their consideration now would extend this essay beyond its legitimate scope.

Let us now go back to a study of head injuries that fall in the doubtful class, as far as operation is concerned. Suppose we don't operate, what occurs. A large number recover completely, some have remote consequences, some develop meningitis and suffer its various distressing consequences or die in the attack, others have abscess of the brain and others have paralysis, either spastic or flaccid. The problem of this study is to arrive, if possible, at an answer to the question or whether or not the doubtful cases would be improved as to mortality or morbidity by an appropriate operation. For the purpose of aiding in the furtherance of that effort, we propose to submit an analysis of statistics gathered from local hospitals and copied from the literature.

During the past year in the Louisville City Hospital, there were treated 61 cases, diagnosed as fracture. Of this number 36 died and 25 recovered or 60 per cent mortality. 13 were operated on, of this number 5 died or 40 per cent mortality of the operated cases; 46 not operated on, 31 died and 15 recovered, two cases the records failed to show the results giving a mortality of 70 per cent for the non-operated cases, against 40 per cent mortality for the operated cases.

From the record of St. Anthony Hospital, where my private work is done: 63 cases were studied, there were 4 deaths or 6 per cent mortality. Only 17 of this series were diagnosed a fracture and 3 of these died, a mortality of 18 per cent. One of the fatal cases was complicated by serious intestinal injuries, the other was admitted in a dying condition. In all 6 cases were operated with 3 deaths, or a mortality of 50 per cent against 40 per cent operative mortality in the City Hospital series. Of the 57 cases not operated upon the the St. Anthony series, 1 died, a mortality of about 2 per cent against 70 per cent mortality in the City Hospital series.

This rather startling discrepancy can in some measure be accounted for, by the fact, that the more seriously injured are likely to go to the public municipal hospital, also, people whose resistance has been reduced by poor hygiene, bad whiskey, and prolonged neglect and exposure. One observed in the City Hospital series, all the 61 cases were diagnosed as fracture cases, while only 17 of the St. Anthony series were so classified and 2 were scalp wounds, only. Two of the fracture cases were operated on and both died. One of which, was admitted "dying condition" and the other complicated "by serious intestinal injury". Of the non-operated fractures 14 recovered and 1 died.

## DISCUSSION

**J. G. Sherrill:** I believe that injuries to the brain cover a very serious portion of our work. Edema of the brain does not occur so frequently after injuries as it does from more chronic conditions. We have, after injuries of the brain, pressure from bone, pressure from foreign bodies, pressure from blood, pressure from pus, pressure from serum.

Pressure from bone is localized and will give you positive determining symptoms which will indicate operation. Pressure from foreign bodies, also localized pressure, will give you positive indications for operation. Pressure from blood will in nearly every instance give you a period between the momentary syncope which follows the injury and the final unconsciousness which comes after the development of a large blood clot. The pressure which occurs from pus will usually come some days after the injury and can be dealt with secondarily. The primary, the acute condition is the one to be dealt with and met. Therefore I believe, that those cases which come in with shock, with a very rapid pulse and you are uncertain whether or not the patient is going to rally, you had better let alone.

Again operative intervention is indicated in cases where there is a fracture communicating externally, a compound fracture or a fracture communicating with the nose or ear, so that drainage is effected in such a manner as to prevent infection. We want to try to prevent infection rather than treat it after it has commenced, because in those cases the possibilities for relief are naturally diminished.

If you are going to operate upon the skull, in my experience you should have some definite indication to be met, and in some of these cases the tests may be made by taking out some spinal fluid and putting air into the cranial cavity and taking an X-ray. The test of pressure in the spinal cord and the study of pressure with the investigation by means of that study is very valuable.

**Wallace Frank:** This is a very interesting subject and one in which there is great diversity of opinion as to just what to do and when to do it. To my mind there is no question of the fact that a certain per cent of these cases will be benefitted by repeated lumbar puncture. However, I think in most of the cases that are unconscious immediately following trauma, with restlessness, we had better wait until the patient reacts from the shock, as Dr. Sherrill emphasized, and then do cranial operation. I think doing the lumbar puncture is simply temporizing, and you will find that a certain number of these cases, even though they do recover will later have chronic headaches, ringing in the ears, vertigo and at times loss of memory and dementia.

Even now we have at the hospital in Louisville a boy who was so treated. At present he is a dement and is in the psychopathic ward under treatment with a slight possibility of recovery. However, he will most likely be a dependent on the state because changes in his mentality due to and resulting from his injury.

As to the value of the X-ray, I believe that we put a great deal too much stress on its usefulness in the investigation of these cases. Very seldom do we see in an X-ray plate a fracture of the base, and yet we waste time carrying patients in to the hospital, putting them on a trolley, taking them to the X-ray room when they should be treated for shock rather than being studied with the roentgen-ray.

In fractures of the vault it is important to know whether or not your bone is pushed down, but not infrequently you can find that out by physical examination. As the last speaker said, to my mind it is not so much the fracture of the skull that makes a difference, as it is how much the brain underneath is injured.

**G. A. Hendon, (closing):** I don't want the impression to go out that when I said pressure symptoms occurred in forty-eight hours I meant it was forty-eight hours before pressure symptoms did appear. The idea I meant to convey was that the pressure symptoms occurred some time during the first forty-eight hours. They may occur in the first five minutes or the first five seconds. As far as hemorrhage is concerned, or the pressure symptoms resulting from hemorrhage, it depends upon what artery has been ruptured, also whether the hemorrhage is subdural or extradural or intraventricular. It is the location that controls the time. We are all familiar with those cases of rupture of the middle meningeal, the hemorrhage is extradural, the patient probably is knocked down, gets up, goes home and sometimes during the night, begins to have convulsions and display other symptoms of brain injury. The time that has elapsed from the reception of the injury until the appearance of the symptoms is dependent upon the location of the hemorrhage and the size of the vessel that has been injured.

I don't mean to say that fractures of the base are invariably fatal. What I do mean to say is that fractures of the base are invariably accompanied by infection of the brain and that doubles the gravity of the case. We know that basal fractures do recover now and then, but they are invariably infected.

There is another very old and very trite saying that I would like to inject into the discussion so slight as to be considered trivial and there is no injury of the head so great as to be considered hopeless, and that is that no injury of the head is ever hopeless.

The spinal pressure will be a very safe guide as to whether the patient is seriously injured or not. Remember, the injuries of the brain are in all degrees. We have a vibratory response that might be classified as an injury to the brain. That is a slight injury occurring which produces a vibration of the brain structure that results in a transient dizziness or temporary blindness or prostration. A person is hit on the chin and drops for a few seconds and is all right again. That is due to a vibratory action.

These operations that we suggest here are intended to be applied to the varying degrees of injury of the brain structure. We should adapt our procedure to the degree of injury that we have to contend with. There are certain cases that may be relieved by spinal puncture and your patient—If you use spinal puncture and your patient doesn't get well, don't blame the spinal puncture, you have simply displayed poor judgment in the use of a remedy that ought not to have been used therapeutically. It ought to have been used merely as a diagnostic measure.



# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price .....\$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

PRESIDENT

J. RICE COWAN .....Danville

PRESIDENT-ELECT

R. L. WOODARD .....Hopkinsville

VICE PRESIDENTS

E. L. HENDERSON .....Louisville

WILSON SMITH .....Greenville

G. S. BROCH .....London

TREASURER

W. B. McCLURE .....Lexington

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

IRVIN ABELL .....Louisville

F. A. STINE .....Newport

A. T. McCORMACK .....Louisville

ORATOR IN SURGERY

J. H. BLACKBURN .....Bowling Green

ORATOR IN MEDICINE

VIRGIL KINNAIRD .....Lancaster

COUNCILORS

FIRST DISTRICT

V. A. STILLEY .....Benton

SECOND DISTRICT

D. M. GRIFFITH .....Owensboro

THIRD DISTRICT

J. H. BLACKBURN .....Bowling Green

FOURTH DISTRICT

E. S. SMITH .....Hodgensville

FIFTH DISTRICT

W. E. GARDNER .....Louisville

SIXTH DISTRICT

R. C. McCHORD .....Lebanon

SEVENTH DISTRICT

VIRGIL KINNAIRD .....Lancaster

EIGHTH DISTRICT

F. A. STINE .....Newport

NINTH DISTRICT

A. J. BRYSON .....Ashland

TENTH DISTRICT

R. J. ESTILL .....Lexington

ELEVENTH DISTRICT

W. M. MARTIN .....Harlan

SECRETARY-EDITOR.

ARTHUR T. McCORMACK .....Louisville

BUSINESS EDITOR

L. H. SOUTH .....Louisville

ASSOCIATE EDITORS

H. A. COTTELL .....Louisville

J. K. FREEMAN .....Louisville

ASSISTANT EDITORS

UROLOGY

OWSLEY GRANT .....Louisville

DERMATOLOGY

S. A. STEINBERG .....Louisville

GENERAL SURGERY

IRVIN ABELL .....Louisville

C. C. HOWARD .....Glasgow

PEDIATRICS

P. F. BARBOUR .....Louisville

OBSTETRICS

EDWARD SPEIDEL .....Louisville

L. O. REDMON .....Lexington

EYE

ADOLPH O. PFINGST .....Louisville

EAR, NOSE AND THROAT

O. T. WOLFE .....Louisville

S. S. WATKINS .....Louisville

PROCTOLOGY

G. S. HANES .....Louisville

BERNARD ASMAN .....Louisville

PRACTICE OF MEDICINE

P. D. GILLIM .....Owensboro

R. H. COWLEY .....Berea

ANESTHETICS

W. H. LONG .....Louisville

DENTAL PROPHYLAXIS

GEORGE H. HEYMAN .....Louisville

NEXT ANNUAL MEETING—OWENSBORO, 1925

## COUNTY SOCIETY REPORTS

**Nelson:** The Nelson County Medical Society held a meeting at the old Kentucky Home Hotel August 27th with S. A. Cox president in the chair.

The guests were: Guy Aud, Frank Strickler, Wallace, Frank, and L. H. South, Louisville.

Guy Aud read a paper on "Acute Appendicitis".

Frank Stricker reported two cases of hair lip with illustrations of before and after the operation.

Wallace Frank read a paper on "Surgery of Congenital Defects of the Face".

S. B. Crume entertained the society with a delightful paper on "Some Reminiscence".

A very elaborate dinner was served at the hotel.

R. H. Greenwell, Secretary.

**Harrison:** The Harrison County Medical Society met at the Hospital July 7, 1924 with following members present: Martin, McDowell; Clark and McKinney, Falmouth; Wells, Henry, Rees, Blount, W. B. Moore, Swinford, Wood, Wyles and N. W. Moore.

J. Martin presided, Minutes of last meeting approved as read. Censors reported favorably on application of Haviland Carr for membership and he was unanimously elected.

J. M. Rees, reported a case of myocarditis.

P. W. Wood reported a case of Diabetes treated with Insulin.

N. W. Moore reported some of his observations and experiences at the A. M. A. meeting.

M. McDowell read a paper on Diagnosis and treatment of "Head Injuries". Drs. Clark, N. W. Moore, Wells and Rees joined in the discussion.

Meeting adjourned,

W. B. Moore, Secretary.

**Garrard, Lincoln, Rockcastle:** The meeting was held at Crab Orchard Springs Hotel, May 29, with a good attendance. Those present were:

Jas. W. Bruce, A. O. Pfingst, Paul Keith, O. R. Miller, Curran Pope, J. B. Lucas, Louisville, J. T. McClymonds, R. J. Estill, Fred Rankin, Lexington, J. R. Cowan, Danville, R. C. McChord, Lebanon, E. J. Brown, D. B. Southard, Stanford, J. B. Kinnaid, J. E. Edwards, Lancaster and Childers, Hustonville. V. G. Kinnaid, Lancaster.

The following program was carried out:

"Some Practical Pediatric Suggestions," Julian Estill, Lexington. "Treatment Intra Cranial Hemorrhage of New Born," Jas W. Bruce, Louisville. "Technique and Interpretation of Duodenal Drainage," J. T. McClymonds, Lexington.

V. G. KINNAID, Sec'y.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.



—THE—  
**Brown Hotel**

4TH AND BROADWAY  
LOUISVILLE, KENTUCKY

*Headquarters Kentucky  
Medical Association - 1924*

\*

700 Rooms

700 Baths

Circulating  
Ice Water

\*



*Moderate  
Rates*

*Popular  
Prices*

*Coffee Shop*

*Centrally  
Located*

*THE newest and finest hotel in the South  
has been selected as Headquarters for  
the September meeting, 1924.*

*Every comfort and convenience at most reasonable  
rates is assured at the first meeting of the Associ-  
ation since the completion of this beautiful Hotel.*

*We extend you a cordial welcome and prom-  
ise that you will enjoy your meeting at the*

**BROWN HOTEL**

*CARL M. SNYDER, Manager*

# KENTUCKY MEDICAL JOURNAL



Being the Journal of the Kentucky State Medical Association

Published Monthly under Supervision of the Council

Editorial and Business Office, Corner State and Twelfth Streets.

Subscription Price, \$5.00  
Single Copy 50 cents

Entered as second-class matter, Oct. 22, 1906, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rate of postage provided for in section 1103, act of October 3, 1917, authorized May 25, 1920.

VOL. XXII.

BOWLING GREEN, KY., DECEMBER, 1924

No. 12

## CONTENTS AND DIGEST

### EDITORIAL

THE LOUISVILLE HEALTH SURVEY.....	511
THE KENTUCKY BAPTIST HOSPITAL.....	511
THE GORGAS MEMORIAL.....	512

### ORIGINAL ARTICLES

THE PROBLEM OF THE BLEEDING UTERUS, By Irvin Abell, Louisville.....	513
Discussions by J. H. Blackburn, J. R. Wathen, A. D. Willmoth, E. A. Stevens and in closing the essayist	
MANAGEMENT OF BOTTLE FED BABY, By W. O. Eaton, Ashland.....	519

Discussion by Annie Veech, J. W. Bruce, P. F. Barbour, J. R. Morrison, J. H. Pritchett, A. T. McCormack and in closing the essayist.	
ONE OF THE SEQUELAE OF ENCEPHALITIS, Case Report, By B. C. Frazier, Louisville.....	526
Discussion by J. J. Moren, C. W. Dowden, L. K. Baldauf and S. G. Dabney.	
PERSONAL OBSERVATION ON TREATMENT OF GOITER, By J. R. Wathen, Louisville.....	528
OBSERVATION ON SURGERY OF THE STOMACH, By J. G. Sherrill, Louisville.....	530

(Continued on Page V.)

## A Merry Christmas

# Ready--Vaquez on the Heart

This American edition is two years newer than the latest French edition because Dr. Vaquez revised and in a great measure rewrote the manuscript in order to make the American edition present today's knowledge of cardiology. To radiology of the heart he added his latest findings made in conjunction with Bordet and the new table of the diameters of the separate auricles and ventricles. He has rewritten a large part of the chapters on heart failure, treatment, hypertension, and complete arrhythmia. He has rewritten the entire chapter on bradycardia and added a chapter on coronary thrombosis. The chapters on endocarditis, pericarditis, myocarditis and congenital lesions he has enlarged, summarizing all the recent work on gallop rhythm and the radioscopic studies of the effects of exertion on the heart.

With this book many of the difficulties connected with the examination, diagnosis and treatment of diseases of the heart disappear. There is nothing indefinite. The method of procedure and examination is very clearly given; the interpretation of the findings so as to formulate the diagnosis admits of no equivocation; and the course of treatment to follow is laid down precisely. The introduction of the volume has been written by Dr. William S. Thayer, Johns Hopkins University.

This is not a book for the cardiologist alone. Far from it. Dr. Vaquez has written it for the general practitioner, realizing the great need for such a work by the medical profession generally.

Octave of 743 pages, illustrated. By DR. HENRI VAQUEZ, Professor of the Faculty of Medicine of Paris. Translated and edited by GEORGE F. LAIDLAW, M. D., Associated Physician to the Fifth Avenue Hospital New York City. Introduction by W. M. S. THAYER, M. D., Professor Emeritus of Medicine, Johns Hopkins University. Cloth, \$8.50 net.

W. B. SAUNDERS COMPANY

Philadelphia and London



INFANT DIET



MATERIALS

## A STANDARDIZED COD LIVER OIL FOR THE CONTROL OF RICKETS

**R**ECENT PEDIATRIC LITERATURE has demonstrated conclusively the value of Cod Liver Oil in the prevention and cure of rickets.

**BUT SMALL AND UNIFORM DOSES** can only be given when an oil of uniform high potency is available.

**THE HIGH POTENCY OF MEAD'S CERTIFIED COD LIVER OIL** is assured by careful supervision of every step in its preparation, and by making sure that only fresh cod livers are used from fish in the best physiological condition.

**THE UNIFORMITY OF POTENCY** is assured by biological tests of each batch of MEAD'S CERTIFIED COD LIVER OIL before marketing.

**THE RESULT IS A STANDARDIZED ANTIRACHITIC AGENT** which not only is unusually well tolerated by infants, but can also be given efficiently in such small doses as not to upset the fat proportion in the baby's diet.

*Samples and literature sent at physician's request.*

**MEAD JOHNSON & COMPANY**

*Makers of Infant Diet Materials*

EVANSVILLE, IND., U. S. A.



M E A D ' S D E X T R I - M A L T O S E

# KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. XXII.

BOWLING GREEN, KY., DECEMBER, 1924

No. 12

## EDITORIAL

### THE LOUISVILLE HEALTH SURVEY.

We have just had the privilege of reading Dr. Haven Emerson's study of health conditions in Louisville.

Dr. Emerson, who was formerly Health Commissioner of the City of New York, and who is now the Professor of Public Health at Columbia University, is probably America's greatest social engineer. He has made similar studies of public health machinery in many cities and they have resulted in an understanding by the citizenship of the problem of public health in such a plain, practical way that almost immediate results have been secured. Similar studies, though not quite so comprehensive, have been made by the U. S. Public Health Service and the American Public Health Association and the facts brought out by Dr. Emerson have been in the possession of the city authorities of Louisville and the State Board of Health for many years. Dr. Emerson's commendation of the personnel of both the official health departments of the city and of the voluntary agencies is very cordial. He states repeatedly that it is astonishing how much has been accomplished by its health officers with the meager funds at their disposal and in spite of the control of the health department by the Board of Safety, which is so busy with the multitudinous affairs under its charge that it can not give the sympathetic attention to public health that is necessary to secure results. He says that Louisville spends less per capita for public health not only than any city of its size, but than any city of half its size in the United States. He states that the water supply is nearly ideal; that the sewage system is being increased rapidly and that with the new \$5,000,000 bond issue will be made practically complete. He says the climate is unsurpassed by any other American city and that the geological formation of Louisville is such as to make it as healthy a town naturally as could be built. It is only necessary for its citizens to realize that they must expend some money to secure an adequate public

health service and that they must remove its public health officials from political control and pay them enough to secure their services over long periods of years in order to retain well qualified men. It is unfair to have asked the type of men who have been health officers in Louisville for the past quarter of a century to serve in this capacity of part-time officers inadequately paid and discharged solely on partisan political ground.

Dr. Emerson's report is in the hands of the printer and will be shortly available for those who desire to read it in detail. Copies may be purchased from the Health Council of the Community Chest.

### THE KENTUCKY BAPTIST HOSPITAL.

The Kentucky Baptists are to be congratulated on the completion of the splendid new \$600,000 hospital on Barrett Avenue near Broadway, just across from St. Anthony's Hospital.

It is a brand new seven story building, T shape, which makes each room an outside room, with a frontage of 175 feet and a depth of 145 feet. The usual utility rooms are in the basement, and on the main floor will be found the offices, a spacious lobby, admitting rooms, doctors' and interne's quarters, and a large class room for the nurses' training school. The next four floors are for patients, the maternity department occupying the entire fifth floor. The seventh floor is given over to the operating department with special rooms for X-ray, cystoscopic and orthopedic work.

The plant is fire proof and has its own refrigeration, hot and cold water in every room and is thoroughly equipped with every modern convenience.

Special emphasis is being placed on the nurses' training school and ambitious girls from all parts of the State are requested to correspond with the superintendent of nurses with view to coming and working their way through a training that will culture them for any circle and fit them to bless humanity all their days. The superintendent, Mr. T. J. Me-



Ginty, was formerly superintendent of the Baptist Hospital of Muskogee, Okla., and comes splendidly recommended for his efficiency.

To citizens of Kentucky the fact that George E. Hays of Louisville, is Chairman of the Board of Trustees and the Rev. M. P. Hunt is its Secretary is a guarantee of the thoroughness and efficiency of its management.

### THE GORGAS MEMORIAL

During the past year, throughout the United States, the work of organizing the Gorgas Memorial State Governing Committees has been progressing. In some states the response has been most enthusiastic, while in others considerable effort has been necessary to bring home to the doctors, the importance of this movement to them, individually and collectively. Inasmuch as the Gorgas Memorial is primarily a medical movement and as such must have the united support of the profession if it is to make the proper impression on the general public, we take this occasion to outline briefly the Gorgas plan and to request the co-operation of our colleagues in bringing to a successful issue, this national health program.

We are planning to establish a Memorial for our former chief, Major General William Crawford Gorgas, not of marble or bronze, but a permanent living organization in the form of a great health foundation typical of his work in research and curative medicine, that will unite laymen and doctors in an intelligent effort to obtain better personal health — a health guild that will be supported and directed by the representatives of curative medicine.

The Gorgas Memorial consists of two phases:

1. An Institute in Panama for research in tropical diseases.
2. A health educational program in the United States and other countries that wish to co-operate and participate in the movement.

We are living in an age when people are knocking at all doors of knowledge and demanding that they be admitted. In the field of medicine who are so well fitted to meet this demand as those actually engaged in the practice of medicine? The doctors have a far more interesting and important message to deliver than any other group.

In the United States today there is scarcely a community that has not its quota of irregular "medical practitioners," so called. In many states there are strong organizations of the representatives of the various cults, whose

theories are imposed upon an uninformed public. Public ignorance is encouraged by professional reticence and the result is the astounding growth of unscientific methods. If the profession is to maintain the high standing to which centuries of labor in behalf of suffering mankind entitles it, it is essential that a definite organized effort be made to familiarize the public with such facts as will impress upon it the importance of medicine's contributions to human welfare. A constant fund of proper health information through the newspapers, magazines, lectures, moving pictures and the radio, furnished by medical men and women of known reputation and standing, will direct the public to the proper source for medical advice and gradually eliminate the irregular practices constantly increasing.

One of the objects of the Gorgas Memorial is to furnish a channel through which this kind of information may be disseminated. It can not be done by individual physicians. It must be conducted by a dignified, ethical organization, controlled by the medical profession. The name of Gorgas is synonymous with "better health." No more appropriate name could be adopted for a movement that has for its object, *the development of co-operation between the public and scientific medicine for the purpose of improving health conditions by implanting the idea in the mind of every individual that scientific medicine is the real authority in all health matters and as such should be recognized as the source of health instruction.*

Before we ask the public for financial and moral support, it is essential that the doctors of the country unite in support of this program. As a means to this end, Governing Committees are now in process of organization, on the basis of 100 members to every 1,000,000 population in each state. Seventy-five per cent of the personnel of each Committee will consist of medical men and twenty-five per cent of influential laymen and women. The permanent activities of the organization will be supervised by these Committees in their respective states, in co-operation with the National Executive Committees.

An organization can not operate without funds. We are endeavoring to raise an Endowment of \$5,000,000, the interest only of which will be utilized to carry on the work. The principal will be invested in trust securities and remain intact. None of the money thus obtained will be spent for buildings or equipment. The Republic of Panama has donated the site and guaranteed the initial buildings and equipment for the tropi-

cal research laboratories, in recognition of Gorgas' great work in Panama. Those invited to serve as Founder members of the State Governing Committees are requested, as they accept membership on the Committee to subscribe \$100 to the Endowment Fund, payable within two years. Every individual on the State Committee is a contributing member. When the medical nucleus of the organization is complete, a general appeal for funds will be made to the public.

The American Medical Association at its recent meeting in Chicago, passed the following resolution:

"RESOLVED, That the House of Delegates of the American Medical Association, convinced of the great promise which the Gorgas Memorial contains of benefit to humanity through improved knowledge of preventative medicine and tropical diseases, and of its peculiar adequacy, as a tribute to our great leader and humanitarian, recommend to the organized profession of the country, through its constituent state and county societies, the enthusiastic support of the project."

J. A. Witherspoon, Tennessee  
Joseph Rilus Eastman, Indiana  
Thomas Cullen, Maryland  
W. H. Mayer, Pennsylvania.  
F. B. Lund, Massachusetts.

The Memorial has also been endorsed by numerous other medical and civic organizations.

Every doctor is requested to take a personal interest in the Gorgas program and to see that his community is adequately represented on the State Governing Committee. Each County Society should appoint officially at least one of its members to serve on the State Committee. This is one foundation that is controlled by the practitioners of curative medicine and as such should be supported by every practicing physician. Let us pull together, "the doctor for the doctor."

Frank Billings, Gilbert Fitz-Patrick, Seale Harris, W. H. G. Logan, Samuel J. Mixter, G. H. de Schweinitz, Rear Admiral E. R. Stitt, George Crile, William D. Haggard, Franklin Martin, William J. Mayo, Stuart McGuire, Ernest A. Sommer, Ray Lyman Wilbur, Surgeon General Hugh S. Cumming, Major General Merritte W. Ireland, C. Jeff Miller, Brigadier General Robert E. Noble, George David Stewart, Hugh Young, Medical Members, Board of Directors, Gorgas Memorial Institute, Executive Offices, Chicago, Illinois.

Officers and law members, Board of Directors:

President Calvin Coolidge, Honorary President; Franklin Martin, Vice President; George M. Reynolds, Treasurer; W. J. Sennett, Asst. Treasurer; Silas Strawn, Attorney; Honorable R. J. Alfaro, Brigadier General Charles G. Dawes, Bernard Baruch, Tyson Dines, Samuel Gompers, W. P. G. Harding, Judge John Bassett Moore, Adolph S. Ochs, Pres. Beliasario Porras, Panama; Leo S. Rowe, Fred W. Upham.

## ORIGINAL ARTICLES

### THE PROBLEM OF THE BLEEDING UTERUS.\*

By IRVIN ABELL, Louisville

Bleeding from the uterus beyond that of the normal menstrual flow occurs with a wide variety of pathological conditions, varying in amount, degree and time of occurrence. For the purpose of discussion and for the sake of the clarity and practicability the records and histories of one hundred cases coming to operation, in which uterine bleeding was the chief symptom, have been studied and tabulated in the preparation of this paper. The lesions presented therein will be found to cover practically all classes of such cases with the exception of three; namely, the bleeding occurring with intra and extra-uterine gestation; that associated with inflammations, pyogenic and tuberculous, of the uterus, tubes and ovaries, and that occurring in the course of endocrine disturbance. In the first of these, much difficulty may at times be experienced in making a correct diagnosis, in the second pelvic symptoms other than bleeding are predominant, while in the third the diagnosis, uncertain at best, rests largely upon laboratory and therapeutic tests taken in conjunction with clinical manifestations.

Considering the last three groups, first, we find occasional cases of intra-uterine pregnancy in which abnormal bleeding persists until the entire decidua is completely fused with the gestation sac, this occurring about the end of the third month. Not frequently such cases terminate in abortion, others have as an end result death of the fetus and mole formation while still others show cessation of bleeding and go on to full term. The treatment of such cases as long as the fetus lives demands absolute rest, with the administration of sedatives if the pelvic

\*Read before the Kentucky State Medical Association, Crab Orchard Springs Hotel, September, 1923.



discomfort is sufficient to require them, until the bleeding stops and shows no tendency to recur upon the patient being allowed to be up and about. If the fetus dies, prompt and thorough evacuation of the pregnancy products should be carried out. The bleeding which occurs with abnormal implantation of the placenta will not be considered in this paper.

The uterine bleeding that occurs with ectopic gestation proceeds from exfoliation of the unused decidua, the ovum having become implanted in an extra-uterine location; it is conceivable that the ovum may be located in the intra-mural portion of the tube, in which event some of the blood may escape from the ovum itself through the patent uterine end of the tube. It is rare that the uterine bleeding in ectopic gestation is of sufficient extent to require measures directed to its stoppage, ceasing with the removal of the offending tube or the extrusion of the pregnancy by means of tubal abortion.

The bleeding that appears with inflammations of the uterus, tubes and ovaries is due to congestion and round-celled infiltration of the endometrium corresponding in large degree with the extent and virulence of the causative infection. Its treatment will be that of the pelvic inflammation consisting of rest, curettage, ablation of the tubes, ovaries or uterus, one, part or all of these measures to be employed as the pathology of the case demands.

It is with much hesitation that I approach the third group, that of uterine bleeding associated with endocrine disturbance; here we enter the realm of theory and speculation as of much that has been written and spoken of the association of the ovary with the ductless glands and of the hyperfunctioning of the ovary, the rapid formation of corpora lutea with resultant abnormal endometrial bleeding little if anything can be offered that is susceptible of scientific substantiation. Clinically, we know that the menorrhagia associated with certain cases of hyperthyroidism disappears after cure of the latter; further, that in some cases of hypothyroidism in which menorrhagia is noted the latter ceases upon administration of thyroid extract; again the therapeutic exhibition of various ovarian preparations will at times produce results of positive character and finally we know that pituitary extract definitely influences the musculature of the uterus. Treatment in this group will of necessity depend on the associated glandular disturbance: that of the thyroid is easily and definitely recognizable and its proper treatment is established. The ovarian dysfunctions can

but be surmised when in the absence of demonstrable local pathology and of constitutional or blood defects abnormal uterine bleeding is present: in the light of our present knowledge it is rational to try the glandular extracts in such cases before resorting to other measures. In my personal experience success has at times followed their use but not with sufficient constancy to give implicit confidence in their efficacy even granting that the bleeding is due to a lack of balance in the endocrine system. In neurasthenia, a condition believed by many to be due to disturbed endocrine balance, menorrhagia is rather commonly noted: if the blood loss is sufficient to constitute an added impairment to the vitality of the patient it is best controlled by the use of radium in moderate dosage, care being taken to avoid the induction of the artificial menopause occasioned by radium in large dosage.

The one hundred cases presenting bleeding as the chief symptom and coming to operation may be classified as follows:

*Pregnancy Effects*

Endometritis Decidual .....	5
Subinvolution with endometritis .....	4
Total .....	9

*Endometritis*

Simple, Hypertrophic Glandular, and Polypoid .....	14
--	----

*Displacements and Lacerations*

Retroversion of uterus .....	5
Retroversion of uterus with endometritis....	3
Retroversion of uterus with subinvolution..	2
Cervical lacerations with endometritis.....	5
Prolapse of uterus .....	2
Total .....	17

*Neoplasms*

Cervical polyp .....	3
Fibromyomata of uterus .....	29
Fibromyomata of uterus with ovarian cysts .....	11
Ovarian cyst .....	2
Ovarian cyst with endometritis .....	1
Carcinoma of uterine body .....	8
Carcinoma of cervix .....	6
Total .....	60

*Pregnancy Effects*—The bleeding in decidual endometritis is caused by retention of secundines and is promptly checked by their removal. The diagnosis can usually be made from the history of an abortion: this history lacking a correct conclusion can not be

reached until the uterus is explored. One patient in this group, multipara, 43 years of age, gave a history of irregular menses for one year with constant bleeding for three months before coming under observation; stated that she had not been pregnant since birth of last child some years before. She was anemic, had lost weight and presented a symmetrically enlarged uterine body with free bloody discharge of foul odor; no pelvic tenderness, no fever. Carcinoma of uterine body was suspected but exploration with curette revealed secundines, chorionic villi being demonstrated microscopically. Cleansing of uterus afforded complete relief. Subinvolution with endometritis calls for curettement with the subsequent institution of measures looking toward the improvement of patient's general condition and the administration of small doses of ergotin or pituitary substance.

*Endometritis, Simple, Hypertrophic Glandular and Polypoid*—Of the fourteen cases in this group the type of bleeding presented as profuse menstruation in ten, as constant slight hemorrhage in one, as constant hemorrhage, moderate or profuse, in one and as occasional flooding spells in one; three showed a hemoglobin under sixty per cent and two a hemoglobin between sixty and seventy-five per cent. Physical examination showed but little if any variation from the normal in size, contour, mobility and position of uterus with negative appendages, the one symptom being the bleeding: age of patients from seventeen to forty-five years. Microscopical examination of the endometrium removed with curette has shown three types of pathology, a round-celled infiltration with vascular engorgement, this being termed a simple endometritis, a hypertrophic glandular endometritis and a polypoid endometritis. One can not emphasize too strongly the advisability of subjecting all curetted particles to microscopical analysis in order that beginning endometrial carcinoma might not be overlooked. Curettage suffices to cure many of these cases but an appreciable number, occurring at all ages but particularly from thirty-five to forty-five, are but temporarily benefited by this procedure while the condition in others is actually aggravated thereby; in the latter event there must always be a suspicion that the use of the curette has been too vigorous. It is in this small but definite class of cases that we find the true problem of the bleeding uterus, a problem that before the days of X-ray and radium not infrequently required hysterectomy for its solution. The use of drugs and sera designed to increase the coagulability of the blood and repeated

curettements proved unavailing; with the development of the X-ray for therapeutic usage a definite advance was made in the treatment of such cases and now the employment of radium offers a cure that is fairly certain. The disadvantage of the X-ray is the need for repeated exposures and the difficulty of determining the dosage which will produce the desired result and stop short of inducing the menopause. Radium as a rule requires but one application and the dosage can be measured fairly accurately according to whether one wishes to diminish the uterine bleeding or to produce complete cessation of menses. The induction of the menopause by both X-ray and radium implies the loss by the ovary of its internal secretion and of its power to form corpora lutea, consequently, in cases of intractable bleeding not controlled by moderate doses it would seem wise to induce the menopause with radium only in those patients approaching middle age, reserving the surgical removal of the uterine body for younger women since it permits of the preservation of unimpaired ovaries.

The following case typifies the problem of the bleeding uterus:

Miss N. J., business woman, age thirty, negative family and personal history. Menses began at age of thirteen, regular, painful, duration eight days. Came under observation May 4, 1921 with history that menses for some months had increased in quantity and duration, March period lasting fifteen days with profuse flow: bleeding beginning with April period was still present in May at which time she had 30 per cent hemoglobin, 1,210,000 red cells and 7,500 white cells. May 5, 1921 transfusion 550 c.c., whole blood. May 7, 1921 transfusion 300 c.c., whole blood: moderate anaphylactic reaction with stoppage of transfusion when this amount had been given. May 13, 1921, hemoglobin 45 per cent, red cells 2,020,000. May 21, 1921 bleeding absent: hemoglobin 50 per cent, red cells 2,228,000. Curettement: pathological report, hypertrophic glandular endometritis. June 9, 1921 recurrence of moderate bleeding: application of radium. Following this, bleeding stopped and menses became regular, duration six to seven days, flow moderate, until Jan. 1922; menses began Jan. 2nd and continued during entire month; on Jan. 18th hemoglobin was 80 per cent, red cells 4,010,000. Feb. 10, 1923, Dilation and Curettement with application of radium, 600 mgm. hours. Feb. 25, 1922 flow still present: hemoglobin 78 per cent, red cells 3,970,000: entirely free of bleeding March 4, 1922. Menses normal until July 1922 when flooding



recurred and continued until Oct. 1922: November and December periods normal. Bleeding recurred with Jan. 1923 period and continued until Feb. 14th at which time her hemoglobin was 65 per cent, red cells 3,560,000. March period—seven day duration—flow moderate: April period was profuse and lasted seventeen days, hemoglobin being 58 per cent and red cells 3,250,000 on April 23rd. During the two years this patient had been under observation, she had been curetted twice, had had two applications of radium, had been given two transfusions of whole blood, two administrations of horse serum, thromboplastin, glandular extracts, iron, arsenic, calcium salts and various styptics including ergot, hydrastis and stypticin with but temporary control of the bleeding: she was now thirty-two and following my preference for removal of the uterus in young women rather than inducing the menopause with radium or X-ray, a supracervical hysterectomy with removal of a cystic right ovary was done April 23, 1923. Microscopic examination of the specimen showed chronic endocervicitis, chronic endometritis and simple cysts of ovary.

*Displacements and Lacerations*—The bleeding in this group of cases shows as a definite increase in menstruation and as intermenstrual flow of varying degree. It is due either to an associated endometritis or to vascular engorgement dependent upon the malposition or to a combination of the two. Curettement with correction of the lacerations and displacements will usually correct the bleeding, the exceptions being found in those cases where the latter is due to the endometritis, when, as noted in the preceding group, one may encounter cases that are most persistent. Again, in multiparæ who are in the later years of menstrual life and who present displacements with a long standing subinvolution, hysterectomy is frequently the procedure of choice since the difficulty in effecting a reduction in the size of the uterus often prevents the attainment of freedom from distressing or annoying symptoms. The two following cases are illustrative of the difficulties with which one may meet. The first, a High School girl of seventeen with negative family and personal history other than metrorrhagia. Menses began at thirteen and for first year were irregular and at times profuse. At age of fourteen intermenstrual flow was noted and continued with remissions of seven to ten days until she came under observation, at times free so that the menstrual cycle appeared lost, at others scant with the menstrual cycle appearing regularly. During this time she had been under the care of

her family physician who had given her chalybeate tonics, sedatives, calcium, styptics and sera (Thromboplastin) without appreciable result. Physical examination showed a well developed girl with negative findings other than a retroflexion of uterus and a secondary anemia, hemoglobin 70 per cent, red cells 3,750,000. A curettement and uterine suspension were done and patient instructed to take iron and arsenic for some weeks. Intermenstrual bleeding was absent and menses were normal for four months when the metrorrhagia reappeared. During the five months following, glandular extracts, iron, arsenic and styptics were used but the bleeding and anemia continued unchanged. A moderate dose of radium 42 mgm. hours was then applied with prompt cessation of metrorrhagia and resumption of normal menses which have continued until the present. The retroflexion obviously did not cause the bleeding since its correction did not stop the blood loss: the cause evidently lay in an endometritis or an ovarian hyperfunction, both of which are amenable to the activity of radium.

The second case, Mrs. H., age thirty-one, married at twenty-two, two children, ages eight and four, no miscarriages. Negative family and personal history until inception of bleeding. Menses began at age of fifteen, painful, duration five days and had been regular until one and one-half years before coming under observation Nov. 15, 1917. During this time flow had been profuse, lasting seven to nine days with an interval of ten to twelve days between menses. Examination showed cervix large, lacerated and edematous, uterine body and broad ligaments negative. Nov. 17, 1917 dilation and curettement, amputation cervix and repair of perineum. Dec., 1917, and Jan., 1918, series of X-ray exposures, following which menses ceased. In Dec., 1920, two years later, had severe uterine hemorrhage with no further bleeding, until September, 1921, when it recurred and persisted with remissions until Dec., 1921. Jan. 19, 1922, uterus removed by transcervical hysterectomy together with cystic right ovary. Microscopic diagnosis—chronic endometritis and hemorrhagic cysts of ovary: nothing remarkable about myometrium or vessels. It is interesting to note that after the use of the X-ray and the apparent induction of the menopause, hemorrhage is noted at the end of two years and becomes so marked during the latter part of the third year that removal of the uterus is done for its relief, the pathological examination showing endometritis and hemorrhagic ovarian cysts. Since menstruation ceased following the use of the X-ray it is inferred that the

ovarian function had been destroyed and that the endometritis was the cause of the bleeding.

**Neoplasms**—In the fourteen cases of cancer in this group the cause of the bleeding is the tissue destruction incidental to the infiltration and erosion by the invading growth. The fibromyomatous tumors cause bleeding by inducing changes in adjacent endometrium, occasionally by necrosis of the tumor itself. The ovarian tumors excite bleeding by disturbing ovarian function and by pressure causing vascular engorgement. Cervical polypi cause bleeding by erosion of the tumor; intra-uterine polypi by erosion, engorgement and associated endometrial changes. Indications for treatment and results obtained in this group are satisfactory if we exclude the carcinomata of the cervix. Operative treatment of the latter remains hazardous and the results unsatisfactory while radium gives a higher percentage of cures without the operative mortality. Polypi, ovarian tumors and carcinomata of the uterine body should be removed surgically: the growth of smaller fibromyomata may be arrested and the bleeding stopped by the use of radium while the larger ones should be extirpated. Age, in my opinion, should be one of the determining factors in deciding in favor of radium or extirpation, preferring the latter when the patient is young enough to make worth while the saving of ovarian function. Both X-ray and radium will be found of value in decreasing or controlling the bleeding from large fibromyomata in the preparation of such patients for surgical removal of the tumors.

#### Conclusions.

From the study of the foregoing tables it is apparent that uterine bleeding may be caused by many and diversified pathological conditions, two or more of which may exist in the same patient. It is equally obvious that successful treatment implies thorough and painstaking study of each case until the causative factor is determined: it is reprehensible and at the same time subversive of the patient's interests to prescribe ergot or other drugs until such study and determination of cause has been made. Once the cause has been definitely established, the application of appropriate treatment, medicine, surgery, X-ray or radium, alone or in combination may be relied upon to afford relief. The dosage of X-ray depends upon voltage, filtration, distance and age of patient: its proper application demands study and experience on the part of the operator. The difficulty of accurately determining the dose that will con-

trol bleeding and stop short of producing the menopause is such that in non-malignant lesions its use should be restricted to patients of forty years of age or over. The dose of radium depends on the age of the patient, the lesion and the result desired, whether lessening of the menstrual flow, temporary or complete cessation of the menses. In non-malignant lesions the younger the patient, the smaller the dose: under twenty years of age, fifty to two hundred mgm. hours: twenty to thirty years of age, one hundred to three hundred mgm. hours: thirty to forty years of age, three hundred to six hundred mgm. hours for lessening bleeding: for permanent menopause one to two thousand mgm. hours. In young patients it is wiser to use the smaller doses and repeat the application if necessary rather than inadvertently induce the menopause and its concomitant train of annoying symptoms. In the bleeding due to malignancy the toleration of the patient is the limit of the dose.

#### DISCUSSIONS

**J. H. Blackburn, Bowling Green:** I feel that the Kentucky State Medical Society is indebted to Dr. Abell for bringing to our attention the fact that uterine bleeding in the child bearing period doesn't necessarily mean that a woman has had a mishap and nearer the menopause that she is suffering from malignancy. I think we are indebted to him for tabulating these cases and showing to us the number of causes that may be responsible for uterine bleeding, and certainly the lesson to some of us should be that a history of irregular or profuse menstrual flow doesn't mean a prescription for ergot, hydrastis, etc. It means the necessity, the urgency, for a complete physical examination.

As to the different types of bleeding, I have in mind a series of six cases in girls from fourteen to nineteen years of age in which a profuse menstrual flow was a leading symptom, in two cases associated with a recurring appendicitis, in all six of which I found the so-called hemorrhagic cyst of the ovary varying in size from a duck egg up to one as large as the double fist.

As to the child bearing period, we would think ordinarily that the early abortion is responsible frequently for producing bleeding, and yet I believe that a study of these cases will indicate probably that displacements and local pathology are even in that active child bearing age responsible for more bleedings than Dr. Abell found as the result of retained placental fragments.

As to the later age, my experience has found that approaching the menopause, of course, we think first of malignancy. I have had the un-



usual, I think unusual, and certainly the very sad experience within the last four years of seeing six cases of carcinoma of the cervix within one year of the birth of the child. Those patients varied from thirty-five to forty-two years of age.

As to the endocrine disturbances, they say Fords rush in where Packards fear to tread. We folks that are doing the work apparently are not so dead sure about the influence of pluri-glandular tablets on the control of excessive bleeding, and it occurs to me that there is a great deal of work to be done, particularly in that field. Again I feel we are indebted to Dr. Abell for bringing before us in this graphic way the necessity for discovering the cause of uterine bleeding.

**J. R. Wathen, Louisville:** Dr. Abell has presented a most excellent paper and covered a very large number of causes of uterine hemorrhage. It is too large a paper for me to discuss in detail, and it is so complete that there is no necessity of it. There is only one condition in his tabulated list that I would like to say a few words about, that is the chronic endometritis cases. They are usually seen in women, of thirty to forty. They come to the majority of surgeons first after having had a number of enurettements. These women have borne children; they have a large subinvolved uterus often complicated with adhesions. If I understand the essayist correctly, he reserves radium for those cases beyond forty, which meets with my hearty approval. I do not think we should induce the artificial menopause earlier than that. I have very serious doubts as to whether we could control the exact dosage of radium. What is good for one person is not good for another. It is my impression today from reading and clinical observation that radium and X-ray both seem more or less to act upon the ovary rather than the uterus. The ovary is certainly affected by those agents.

In recent years in those cases of chronic endometritis which have resisted almost all other methods of treatment, I have resorted to doing, as the essayist has said, a supra-vaginal hysterectomy. I leave in the ovaries, by all means, or at least a part of one ovary. I remove the tubes and suture the round ligaments into the cervix, and I thus elevate the floor of the pelvis. I clean up any other pathology that we can find there with chronic inflammation, and I have obtained good results. These patients get well and stay well and we do not introduce that element of uncertainty that radium and the X-ray will introduce in a large percentage of cases. I hate to induce the artificial menopause in patients from thirty to forty.

**A. D. Willmoth, Louisville:** I want to thank the essayist for his most excellent paper on this very important subject. Not only did he deal with the question of uterine bleeding in the young girl, but he emphasized and crystallized the causes from there on up to the important age in which we expect the malignancies to occur, which is one of the very important questions that every surgeon has to bear in mind when patients come that are past thirty years of age complaining of a uterine bleeding.

I was very glad indeed to hear Dr. Abell take the position that he did, because I believe the position that he took is one that is occupied by most of the surgeons today. One question that he did not emphasize or did not go quite that far into, as to the actual cause of the conditions, was the chronic endometritis cases in the younger woman that I believe if you will examine you will find practically all of them are luetics. If you will take your chronic endometritis cases where there is really no tumor formation or no other condition, you can find, and will run a Wassermann on them, the larger number of these women will give positive Wassermans. I believe personally that accounts for many of the cases of chronic endometritis that have been referred to here. Why not? The rhinologists tell us that it produces the disturbance in the mucous membrane in the nose, the Gastroenterologist tells us that it does in the stomach, we know it does in the gut, why shouldn't it do the same thing in the uterus?

If there is any warning at all that is to be given out in regard to the doctor's paper, it is that he was possibly a little too conservative in his dealings with those cases that come later in life. I do not believe there is anything in this world that is more serious, so far as the patient is concerned and the doctor who first sees the case, than to have anterie bleeding in a woman past thirty years of age. The one thing above all others that you should bear in mind is the possibility of a malignancy. I fully agree that you have to take into consideration in the married woman the possibilities of a pregnancy, the possibility of the endometritis disturbances, the other conditions that might bring it about, but don't forget that as long as you are tampering with that case you are possibly dealing with a malignancy that is lurking in the uterus or the uterine wall or high up in the cervix that you don't see, and finally when you come to the full sight of the case you have a patient that is beyond recall and a person whose malignancy has been developed or further metastasized far up into the abdomen beyond reach.

**E. A. Stevens, Mayfield:** I don't want to discuss the paper, but I do want to ask a question. I thought I knew where I was before this dis-

ussion commenced; I have decided I don't know where I am.

I have a case of this kind. The young girl sixteen years old had been bleeding for a year. She had had ergot and all those things that go with it. She came to my hands and I treated her for a year and she got no better. She had a very tender appendix or tenderness in that region. I advised removal of the appendix. When the operation was done she had an ovarian cyst about the size of the doctor's duck egg and a chronic inflamed appendix. They were both removed. She got well temporarily. For six months she had no further menorrhagia. It returned and was about as bad as ever, however. She was very anxious to retain her uterus and if possible to bear children later. I gave her a dose of radium, I think about thirty or forty milligrams for about six hours. She got well. She is now having her monthly periods regularly. Did I do right or did I do wrong, and if I did wrong what should I have done?

**Irvin Abell, Louisville, (Closing):** I would say to Dr. Stevens that he did exactly right. He removed all visible and demonstrable pathology. When this has been done in a patient of that age and the bleeding still continues, personally I think there are but two interpretations which one can place upon it, either that is endometritis (and this will in a measure answer Dr. Willmoth's question) and is due to a low grade infection which persists, consequently which again causes in your reformed endometrium the same pathology you had before, that is a vascular engorgement and a round cell infiltration which in turn leads to bleeding, or else we get into the realm of theory again. Have you got a hyperfunction of the ovary? Are you getting an endometrial bleeding? As I say, that is all theory. But regardless that either or

<sup>th</sup> of two conditions may be present, your radium controls both. The effect of the radium and the X-ray in reducing uterine hemorrhage is chiefly upon the ovary itself. Sufficient dosage of either produces a complete destruction of the ovary both in so far as its internal secretion cells are concerned and so far as the corpus luteum is concerned. If there is a hyperfunction of the ovary you have to resort to radium.

I think this, too, is an answer to Dr. Willmoth. We have run Wassermanns on a considerable number, not all, and in our experience the positive Wassermanns have been few and far between in this type of case. The explanation, as stated, I believe to lie in an endometritis. The microscope shows this particular type of pathology, not the type of cellular pathology about the blood vessel which would be suggestive of a luetic change.

I think it is well to emphasize the danger of malignancy, but I believe that if one studies his patient with a reference to the possibility of any one or several of these lesions being present, surely you will detect malignancy in the course of your examination when appropriate treatment may be instituted.

## MANAGEMENT OF THE BOTTLE-FED BABY.\*

By W. O. EATON, Ashland.

Even the management of the bottle-fed baby should begin before birth just as the breast-fed baby's management should begin before birth. If this were done, the doctor, enlightening himself to the best of his ability and capability and passing this information on to the would-be mother, there would not be so many of the bottle-fed to manage.

There are a few women who do not wish to nurse their babies and in my judgment that few, if they were frankly told the consequences which are apt to follow the bottle-fed—the bottle-fed baby having so little chance, in the language of the street, for its "white alley"—if this were explained to the would-be mother as well as to the already arrived, if she were prepared physically as to the care of the nipple and breast before as well as after the baby arrives, that few would have all their obstacles overcome by your help and encouragement.

One of the causes for discouragement with the young mother is that the baby is permitted to nurse for too long a period. The popular idea is to have the baby nurse for twenty minutes. I am sure I will not be contradicted when I make the statement that there are few nipples, or breasts either, which will withstand the onslaughts of the normal baby for that time. With chafed nipples and an infected breast the fat is in the fire so to speak. As to the length of time a baby should nurse, if you procure a pair of scales that weigh in fractions of ounces, you will be able to demonstrate to your own satisfaction that a baby does not require twenty minutes to satisfy itself.

Carrying this experiment just a step further, if you will let the baby nurse three minutes from each breast, weigh it, then return it to the breast again for three minutes you will find that it received 90 per cent of its total intake during the first six minute period. Consequently if the baby is per-

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September, 1923.



mitted to nurse four minutes from each breast, it will get all the milk that is being secreted. Thus avoiding trauma to nipples.

There is nothing that will upset or discourage a nursing mother as much as a crying baby. This situation can be met by the doctor being ready to give the mother the very best and latest information on how to proceed instead of leaving this field of medicine to the well-intended woman of the community.

In the first place there are two reasons why normal babies cry or fret. One reason is too much to eat and the other is too little. You get the same symptoms from both conditions. Except with the scales there is no living individual who can diagnose which condition he or she is dealing with. You may guess that a baby is not getting enough because it is not gaining. Often, however, when you begin weighing the baby you will find that the breast is producing all the baby will take and more, and still it is not growing.

This can best be illustrated by citing a case. Baby girl 5 weeks of age, nursing every 3 hours for twenty minutes from one breast, not gaining, restless and crying, frequent bowel movements with curds and mucus. Weighing before and after nursing it was found that it was getting less than one and one half ounces. No treatment except instructions to the mother to nurse baby every four hours four minutes from each breast. Then strip the breast clean using the **fore finger and thumb** in the milking process. Since instituting this program, baby has gained from eight to ten ounces per week and is termed a model baby.

Where the infant does not gain normally in weight after a thorough trial upon the breast under the best possible conditions, give five to ten minute feedings from the breast, complementing each feeding with a bottle. Usually use one-third milk and two-thirds water to start with. Gradually increase to half milk and half water and if the bowels are constipated, add one-quarter ounce sugar in the twenty-four hour mixture, increasing this amount as the weight and condition of the bowels seem to warrant.

F. H. Richardson, in Long Island Medical Journal January 23, says: Sedgwick practically eliminated artificial feeding of infants in Minneapolis by a campaign of medical and lay education. Any community hoping to accomplish similar results should study this experiment. It reveals that 3 factors or agencies working smoothly together have

made possible a really remarkable condition of affairs. (1) A small nucleus of pediatricians whose abstract faith in the superiority of natural over unnatural feeding was so compelling as to encourage them to embody it in a concrete campaign for their community. (2) A child welfare agency which furnished the machinery to do the work. (3) A birth registration agency, which made possible the presentation of breast feeding propaganda to the mother of every new-born baby in the city. The principle on which the whole work rests is that successful lactation depends upon certain definite influences, which can be brought to bear if their importance is properly appreciated, namely, (1) A conviction on the part of every mother that, given the help and direction of her physician, she can nurse her baby. (2) Periodic stimulation of the breast by the suckling child at long intervals (3 to 4 hours). (3) Complete emptying of the breast at these periods; if the child fails to accomplish this, then the mother can be taught a simple, painless and effective method of accomplishing it. (4) Providing for the needs of the nursing meanwhile, by offering him a complementary, not a supplementary, feeding.

In the technic of breast feeding, main emphasis is put upon manual emptying of the breast taught every mother by nurse or doctor. The manipulation is quite similar to that employed in ordinary milking, except that approximation of the thumb and finger is substituted for the whole hand. A few other salient points are: (1) that the appetite of a lactating mother can safely be relied upon to direct her diet, if she will but take 1 qt. of certified milk daily in addition to whatever else she ingests; (2) that adequate sleep and rest at night, supplemented by a daily nap, are essentials; (3) that a decided decrease in the amount of milk secreted need not be regarded as indicating an immediate enforced weaning; if complementary feeding is increased and manual emptying persevered in this period can be tided over. There need be no fear of over-feeding a breast-fed baby. Cleanliness in the care of the nipples and support when necessary for heavy overfull breasts, are important. Simple boiled milk dilutions form the most easily handled complementary feedings, with dextrimaltose added if a sugar is needed. It is a safe general rule to offer a 3 oz. bottle after a breast feeding. The formulas are: for a child under 2 months, 1-3 milk to 2-3 water; for a child between 2 and 4 months, 1-2 milk and 1-2 water; for a child 4 to 6 months, 2-3 milk and 1-3 water;

for a child over 6 months, whole milk. For a child under ten pounds, use 1-2 oz. sugar; for one over ten pounds, use 3-4 oz. sugar.

On the other hand you may find on weighing baby before and after nursing that it is getting too much to eat. The remedy is to lengthen the time between nursing and shorten the time that the baby is permitted to nurse.

You all know the procedures that are instituted under such conditions. Some visitor comes in with all too free advice that baby is not getting enough to eat, your milk does not agree with baby, and many other suggestions too numerous to mention. The result of this advice is some sort of artificial feeding instituted which is little suited to the individual baby with the result, a sick baby and mother's breast dried.

Management of the bottle-fed baby often means managing the entire family and more often the entire community. I feel that there is more free information or rather misinformation on this subject than there should be. This information consists of propaganda from the various food manufacturers, also the various knowalls in the neighborhood. By the time you have your patient, and it is a patient and a sick one, you are greeted something like this, "Doctor, I have fed my baby just about every thing in the baby food line that I have ever heard of and it has not done well on any of them, in fact it is sick." On inquiry you find it has had cow's milk, Mellen's Food, Horlick's malted milk, Eagle Brand and many other varieties of so-called baby foods.

So many babies come under the observation of the pediatrician with a history like this, baby not growing, fretful, some times constipated, other times with a diarrhea, curds in stools, and so on, asking, what are you feeding the baby you will get a reply something like this: "Doctor told me to try malted milk and the baby could not take it, then the doctor told me to try Mellen's Food and that did not do, baby could not take it at all. Then my husband's sister was here and said she was the mother of 13 and she fed the last 12 on condensed milk and she thought I had better try that. I did and the baby seemed to do fairly well until about ten days ago, when it began to have a diarrhea." On further questioning, developments showed that her sister had buried eight of her flock of 13.

I don't make this reference to condensed milk to condemn it but to try to influence the doctor to be sure that he knows his condensed milk stuff. Condensed milk will help you over many a hard place. However, you

want to know when, and how well when to give it and when to discontinue. Because, in my opinion, you will find a baby occasionally brought up on the ordinary sweetened condensed milk that does well and develops into a fairly healthful and robust individual. Ninety-nine out of every hundred have something coming to them, and nine hundred and ninety-nine out of every thousand it comes.

Speak of the crime of not being able to diagnose appendicitis. I have heard surgeon after surgeon berate the profession on its inability to meet this situation, that is appendicitis as well as other kindred situations, but not one word have I ever heard uttered because of the inability of the average doctor to meet the crisis in a baby's life such as I have described.

In this connection, I want to say, that if you ever have to instruct a mother on the intricacies of bringing a baby up on any of the sweetened condensed milks, study the condensed milk question until you know what it contains, chemically, also as to its food value and life giving qualities, then supply the deficiencies with fruit juices, vegetable matter and cereals.

I believe that some modification of cow's milk is the one reliance for the bottle-fed baby. I grant that you will find an occasional baby that has an idiosyncrasy for milk but on further investigation you will find that in most of these babies this condition has been the result of mistaken methods.

The first thing to impress on the mother whom you are trying to train to feed her baby with cow's milk, is the same thing that an automobile salesman teaches the beginner with his car, and that is: how to stop! Impress this on her mind with all the emphasis that you possess. On the very first symptom of trouble stop feeding the baby any kind of food. Having impressed this on her mind, you are ready to start her with the baby. Cow's milk must be clean, and from tested cows. Every thing must be sterile and kept that way. Emphasize this, with all your might, explain the dangers in detail and, in order to drive it home, tell her if her baby stays well, the doctor will have all he can do with the folks that do not do as they are told.

Horwitt, New York, M. J., March 23 says: Our principles and practice of infant feeding are based on the consideration that imitation of human milk is impossible, and should therefore not be a determining factor. Imitation is only possible in the case of sugar, and even here the superiority of lactose over other sugars has never been demonstrated. Curd indigestion is largely a misconception, and its correction is rarely



called for. We have long since prescribed lime water, sodium citrate, and peptonization. The use of sterilized or aseptic milk will not expiate the sins of an improper formula. The fear and trepidation with which the use of plain cow's milk is approached by the uninitiated is unfounded. Probably a good many failures attributed to cow's milk as a whole or to any of its constituents were in reality due to lack of knowledge and appreciation of the nutritional needs of the growing infant. One must guard against misinterpreting such symptoms as loss of weight, restlessness, vomiting, diarrhea; they do not invariably imply overfeeding, food intolerance, curd indigestion, nor do they spell high dilution, predigestion, or reducing this or that food constituent.

One should palliate these symptoms while treating the underlying nutritional fault. An adequate formula must contain sufficient calories, properly apportioned between fat, carbohydrates, and proteins; the food allowance must not be excessive; the volumetric quantity must be correct; the food must not be destitute of growth-promoting principles or vitamins, either through denaturing, substitution, or one-sidedness.

The name caloric feeding is objectionable inasmuch as it lays too much stress on the caloric appraisal of food is one of the helpful criteria of a good formula. The figure given usually is 45 calories per pound of body weight for the first 9 months; 40 for balance of the first year; overweight babies will do well on less, and undernourished babies will require 50-60 calories or more. The protein requirement is said to be met by the use of an amount of milk equal to 1-10 of the infant's body weight, or 1 1-2 oz. per pound. The sugar need is given as 1-100 of the body weight, or 1-14 dr. per pound. The fat requirement is generally met alongside of the protein allowance. Low fat and high sugar combinations are compatible with good growth and development. Hyperalimentation leads to dyspepsia. The volumetric quantity is roughly 3 oz. per pounds in the first 4 months, 2 1-2 oz. during the second 4 months, and 2 oz. during the third 3 months; it is rarely necessary to go much above 40 oz. a day. As to vitamins, orange juice should be given as a convenient vehicle for B. and C. factors, while vitamin A. is supplied in the milk. Undernourished infants require more food than normal ones of the same weight; the optimum amount is arrived at by allowing less at first, and then increasing until the gain is satisfactory. A careful history and physical examination are the sine qua non of the intelligent infant

feeding. The presence of acute or chronic disease will impede the infant's growth even when the feeding is ideal. The ability to individualize is the distinguishing mark of the consummate infant feeder. If nutritional requirements are borne in mind and attended to patent food and stereotyped formulas will be found unnecessary.

## DISCUSSION.

**Annie Veech, Louisville:** I have been very much interested in this very excellent paper and how well it covers most phases of this question of feeding children. There are several things that have especially interested me. One is the doctor's suggestion that modified milk feeding should be used as supplementary feeding, urging that the milk of the mother be held as long as possible and not given up but this other added to it.

One point which I believe he did not mention which I feel is a cause both of the mother losing her milk and the trouble with the child in indigestion of the mother's milk or the formula is nerve strain for the mother or nerve strain for the child. Of course, we who have had our children closely under observation and care do not realize how many mothers do not have for their little ones enough quiet. This is one of the things that I would like you to appeal to the fathers about in your work, and that is that they will not play with the babies in the evening when they come home. Of course, it is pretty hard on them not to be able to play with the baby, but that is not good for the baby's digestion. And another thing is that they look after the happiness and the lack of nerve strain of these nursing mothers. Sometimes they are overworked, and many times that is true, and that is not good for the milk and it is not good for the baby. I think nerve strain is one of the few points the doctor left out of his paper.

A gentleman who presented a paper before the Southern Medical Association some years ago said that colic in babies is largely hunger, and I believe that is true, and I am glad to see that he stressed this continuous weighing of babies because it is the best gauge we have to the health of the babies.

He mentioned the various sugars we are using. I believe one of the very best as a whole over the country to use is Karo Corn Syrup. It is cheap and almost any mother can have it for her baby, and I think it causes less fermentation than cane sugar.

I am going to ask the surgeons in the next few years to think about this thing with us. We often compare the nursing mother to the family cow. We who are farmers know that it is

necessary, if we wish the dairy to keep up to its best, to have the bag stripped. We all know that, but in stripping the udder one is not handling the gland. As the mammary gland is the site of carcinoma in women repeatedly, I want to know, in the course of the next few years, what this teaching of Dr. Sedwick's of women as a whole, nursing mothers, in manipulating a gland so sensitive as this is (mind you, it is not like the udder of a cow) will result in with respect to the trauma producing carcinoma.

**J. W. Bruce, Louisville:** First I want to congratulate Dr. Eaton on his very common sense, practical paper. I think one thing that we are inclined to do in pediatrics is to get too theoretical, to do too much mathematics, and if there is one thing that the doctor has done it has been to keep away from that theoretical, mathematical turn of mind and talk good, plain, common sense. I am glad he has laid stress upon the importance of breast feeding. It seems that is the one important thing that we must have in mind in attacking a case of infant feeding. Keep the baby on the breast as long as there is a dram of breast milk in it.

Three points which Sedwick has emphasized are complete emptying of the breast, not leaving any milk in it at all, regular emptying of the breast, and the use of complementary instead of supplementary feedings, that is giving the baby, if it is still hungry at the end of a feeding, a little milk after the breast rather than a bottle in place of the breast. If we follow those three things intelligently, I think we will find that our mothers will be able to nurse their babies a great deal longer and more effectively.

As to whether the baby is being overfed or underfed. I agree with Dr. Eaton that that is one of the most difficult things to tell in the world, because the symptoms of the two are practically the same, that is the baby is crying, it draws its feet up over the abdomen when it cries, it seems to be in great pain, the mother always thinks it has colic. Usually the baby is hungry. It may be the baby is getting too much, but it is not apt to be getting too much as much as it is apt to be getting too little. The only way you can tell is to weigh the baby before and after nursing on an accurate scale. The ordinary spring balance is not enough. Use as accurate a scale as you can, and find out if the baby is getting too much or too little.

The three-hour and the four-hour interval of nursing is another point. We hear a great deal these days of the advantage of putting a baby, as soon as it is born, on a four-hour nursing. It seems to me that for the first month that is pretty strenuous. Babies that are put on a four-hour schedule as soon as they are born, I

believe, cry a good deal more. Crying in the first month is very dangerous; it is apt to produce umbilical hernia. It is better for the first month to give three-hour nursing, and if the baby is getting along well after the first month, it could then be put on a four-hour feeding.

The subject of painful nipples is one which all have struggled with, and it is a very difficult one to handle. If you can possibly keep the baby on the breast in spite of the painful nipple, it is a good thing to do. We can use nipple shields, and see what we can do with those. If they don't work, the use of the breast pump or the manipulation of the best can be tried, but if possible keep the baby on the breast in spite of the painful nipples.

It seems to me that one of the best prophylactics against summer complaint is the universal boiling of all milk, that is in the summer time, in the hot months. Even if you have certified milk (I believe we have as good certified milk in Louisville as there is anywhere in the country) I believe you ought to boil the milk or bring it to a boil just enough to sterilize it before feeding the baby.

As to the rule for the quantity in twenty-four hours, if you follow the simple rule of an ounce and a half of milk, a tenth of an ounce of sugar to a pound of body weight, you won't go far wrong. If the baby doesn't gain on that you can increase it, or if it is too much you can cut it down, but it is a mighty good rule to use as a starter and most babies will get along very nicely on it.

It is pretty generally agreed that if a baby stays on condensed milk during the first year, the baby will do one of two things, either it will develop rickets or have a pretty tough time with diarrhea. We find a great many staunch advocates of condensed milk, mothers who have raised their babies that have been big and fat and gotten along fine. As a matter of fact, if you examine those babies carefully I think you will find a good deal of rickets present that the mother didn't know anything about.

Another thing, if you go carefully into the baby's history you will find the mother began feeding the baby other things, giving it accessory foods. It seems to me that the early feeding of accessory foods is one of the important things in infant feeding. Begin early upon cod liver oil or orange juice, vegetable juices and cereals. There is no reason why a baby shouldn't take orange juice from the time it is three or four months old. That gives the vitamins B and C and cod liver oil is mighty good routine procedure from the time a baby is six or seven months old, using a small dose every day. Most of them can stand it all right in the cold weather. In the hot weather they get plenty of sun, which has the same effect.



They don't need it in the hot weather. Tomato juice could be used in place of orange juice.

The early feeding of cereals it seems to me is a very important thing. Cereals can be digested by practically all babies by the time they are six months old.

**P. F. Barbour, Louisville:** I am glad the doctor emphasized breast feeding. There is only one feature of that that I want to add to and that is that breast feeding is known to convey immunity from the diseases from which a mother has suffered, and I think that of itself is an argument you can use that will often induce her to keep on nursing the child when otherwise she might prefer to go to a bridge party or some other form of entertainment. The immunity is handed down to the child through the milk, and the protection, that the child gets, keeps it from contracting diphtheria, measles, scarlet fever, and other diseases of that type until it is about six months or a year old when its own body immunity can be developed in itself.

The weaning of the child from breast milk brings up another point. The doctor has said we can complement the mother's milk with the bottle, and that is a very wise thing to do. The only way in the world we can tell that a child is not getting enough milk is, as the doctor has stated, to weigh the child. The suggestion has often been helpful to me, that the difference between a hungry child and a colicky child is in the way it bends itself. If any of you can remember back to the days when you ate green apples and had green apple colic, you remember your position was bent over. A child that is mad because it hasn't enough milk in its stomach throws itself back. That has been a great deal of help to me in telling whether the child got enough milk from the mother. Weighing the child is the most accurate method.

I would say that ninety per cent of the children, will be able to digest almost any mixture that you put into the stomach within reason. It is that ten per cent that have been misfed or who have quirks of constitution that make them go wrong that we must watch. Many times a mother will change the food three or four or five or six times in a week. You can't get anywhere testing out a food with a child if you are going to change it the next day or week. You must give that child long enough time to show you what it is going to do with the milk before you begin to make your changes in it.

I think one of the vices that I have seen among mothers is changing around so frequently that you never know where you are at with that child.

Another thing that has helped me many times in telling how a child is going to handle milk

is to investigate the family history. It seems like a far cry, and yet I have undoubtedly found that in many cases where the mother has a poor digestion for certain types of food, there will be trouble with the child in feeding it on that same type. I have mothers who if they eat a piece of chocolate candy for dinner would have a sour stomach. I have many times found that children of such mothers would have to be put upon unsweetened food to enable them to get through.

What is the objection to condensed milk? It depends upon the class of society that you treat. If you are treating in families that have good cooks, that have a refrigerator, that have intelligence enough to keep the bottles and the nipples clean, you want fresh cow's milk or certified milk; but suppose you have to treat the poor little negroes, Italians, Syrians, and others in the city of Louisville that haven't any ice to keep their milk cool and don't know how to keep the bottle clean, are you going to put them on fresh cow's milk in the summer time? If you do you are going to have trouble. Condensed milk is the best temporary food for the majority of ignorant mothers. It is far less apt to do harm than fresh milk from a good cow, simply because the mother doesn't know how to take care of it and has not the facilities to take care of it. I don't believe in keeping the child on condensed milk for any length of time. It is not the milk that I would give a child by preference, but conditions sometimes determine that you have to feed the child on the simplest and easiest food. Condensed milk gives one trouble in the long run besides rickets and scurvy; it builds a child that has poor resistance and many times you find that a child raised on condensed milk loses its appetite. It gets an intolerance for sugar; it can't take care of ordinary foods containing sugar. If you take a child off of that kind of milk and put it on buttermilk or protein milk or some milk containing no sugar, you will have an easy time taking them along afterwards.

The subject is so big that I have only tried to pick out a few of the salient points, but remember that after all the child determines what it is going to do with its milk. You may have any kind of preconceived idea about the kind of milk to put into that child, but the child itself is going to tell you what it will do with it. You have to adapt the milk to the child and not the child to the milk.

**J. R. Morrison, Louisville:** Usually every year we have something to say about children's feeding in this Society. I believe that the most sensible remarks that I have heard on this subject have been made today. I do hope that not the general practitioner but the general doctor

that sees people and treats them will get something out of this and take it home, because I think we have simplified this thing enough now so we ought to be able to get something out of it. I will admit in those days when we tried to work out Holt and Roch formulas of the fat, protein, sugar mixtures, it was hard for the average man and for all of us, like those insulin things they put up here yesterday. It is a most valuable subject if it is worked out in another way. There is going to be plenty of room for the pediatricians when all of you know how to feed babies, because there are even then going to be some that are very hard to feed.

If you put your noodle right on this thing you will get it, and if you get it you are going to do a lot of work toward what Dr. Cabot spoke about last night, preventive medicine, getting them right down where the bean comes out of the ground. The reason I am speaking this way is because I hope you will all get it; it isn't hard; you will get it if you put your head to it.

What Dr. Barbour said about condensed milk is probably all right, but in some laboratory experiments done at the University of Louisville on white rats with condensed milk, they didn't do nearly so well as on the best preparation of dried milks. Those dried milks, (whether they would be as cheap as condensed milk I don't know) probably diluted with vegetable water as the child comes along, will make, I think, a very much more adequate food than condensed milk and need none of the advantages of ice boxes and so forth to depend upon that we complain of in fresh milk. But for goodness sake, use fresh milk, and for goodness sake use mother's milk when you can do it. So many good doctors get some excuse for getting the baby off of the mother's breast—a little cold or a little sore nipple that with a little manipulation, with a little skill, with a little courage like Dr. Stevens said yesterday, would come out all right. Dr. Stevens said yesterday that it was going to hurt a woman to deliver her of placenta praevia, but he had to do it to save her life. In a good many instances where a mother's milk has to be taken away, you can probably borrow or buy some mother's milk in the neighborhood from some mother who needs the money worse than she needs the milk.

This has been the best feeding talk I have ever heard in this Society. It may not have been the most scientific but I believe it has more sense than any one I have ever heard.

**J. H. Pritchett, Louisville:** With reference to the examination of the breast milk, I have had much experience, and I want to say it means but little, you might say nothing at all, because no two specimens will be alike. Unless you

empty both breasts completely and have them examined at separate breast milk pumpings, the results each time will be different. The only criterion as to whether or not the breast is agreeing is the child's weight, if it gains properly and satisfactorily, as to how it sleeps, the condition of well being, and last of all the stool. The examination of the stool is of much importance always to the doctor, especially in the artificial feeding.

I think this is one of the most important papers on our program. I think that the physician generally is not ignorant concerning the subject of infant feeding, but he is not interested enough, and I think that time is rapidly passing; he is becoming more interested, and the time has come when our mortality has been indeed materially due to the fact that we are more interested.

As regards the use of the sugars, I think they are all more or less alike in the majority of cases. Some few cases I know who do badly on one sugar if properly changed to another would gain at once; whether you use Karo Corn Syrup, Mellin's food, Dextro-maltose, cane sugar or the lactose, is simply a matter of choice.

One more point which was not mentioned I think by any one is that all babies from their very birth need water and plenty of it. Water is of great importance. Furthermore, if it is begun early by way of the bottle and then we have to take the child from the breast for any reason whatsoever, the child will have had a good start with the bottle, whereas five or six months later it is an extremely difficult case, as many of you can testify.

**A. T. McCormack, Louisville:** I am glad Dr. Pritchett emphasized the question of water. I have seen many cases of colic cured by water. Dr. Jacobi insisted always that the baby ought to have as much water as milk.

Another thing brought out by one of the members of the Society who is here, Dr. Gary, was that many cases of colic in babies are caused by the bacterial infection in the breasts and that in the cases of colic that are difficult to relieve small doses of Fowler's solution given to the mother regularly will frequently clear up that bacterial infection of the breast and relieve the colic in cases that are otherwise very intractable.

Another thing that we found in our work in the mountains was particularly valuable in the mining camps where the only food a cow gets is the labels on the cans and other refuse from the house. A cow that doesn't get good food doesn't make milk that is worth any more than any other sloppy thing that has no content. The same thing applies to mothers, and if you will try, before you wean the baby, feeding the



mother the condensed or the dry milk or the other thing that you are going to give the baby, and the mother's digestion is good and you can add to her just that element of milk, pour it into her after she feeds just as she would take medicine, she will have more milk and her milk will have better content and she will keep on nursing her baby.

**W. O. Eaton, Ashland, (Closing):** I want to thank all the gentlemen for their discussion. I shall try to answer some of them as best I can from memory.

When the gentleman spoke of putting the baby on brass tacks and cow's milk in order to make a good soldier of him. I didn't understand whether he meant to put them all on that and take them off of the breast milk in order to develop some good soldiers or not, but if there was ever anything in this world that was made for the young baby it was the mother's milk. I believe that you can raise a baby on nearly anything, but you have got to go at the thing gradually. If you are going to give a baby cow's milk, start slow, possibly on skimmed milk and water, equal parts, for two or three days. About how often to nurse a baby, which Dr. Bruce spoke of, the Lord himself only knows. When I first began to practice medicine babies were nursed every two hours in daytime, and were supposed to nurse not oftener than once in the night. A baby that sleeps fairly well in the night and nurses only once, will when it wakes up in the morning be as cheerful and bright and happy and good as any baby you ever saw, but let him nurse every two hours until the middle of the afternoon and you have got hell to pay ninety-nine times out of a hundred.

So far as condensed milk is concerned, that will help you in many a hard place, but my observation of condensed milk is that you have to use the same care with the bottles and the nipples that you do with any kind of milk. Of course, you can go open the can, but if it isn't handled carefully after it is opened it will soon become contaminated. It should be poured out of the can as soon as the can is opened, and put on ice.

I want to say one thing about colic. I think colic is more or less a God-given institution as long as the baby is growing, but whenever a baby is not growing and the folks think it has the colic, you had better get busy because the baby must grow.

There are a number of authors who claim (and I have tried it out to a degree although I never went to the extent of testing the mother with proteins) that there are some foods that the family has an idiosyncrasy for, for instance eggs. Some day when a mother tells you her

baby cried all afternoon or possibly all day, ask her what she ate for breakfast.

"Eggs."

Leave off the eggs and the colic disappears.

The food that the mother takes is bound to have an influence on the baby, of course.

## ONE OF THE SEQUELAE OF ENCEPHALITIS. CASE REPORT.\*

By BEN CARLOS FRAZIER, Louisville.

Three years ago I was asked to see a man in the early seventies for what appeared to be an attack of neuritis involving both forearms. He was a mining engineer from Colorado and had a great deal of writing and drawing to do. At that time he did not look physically ill, in fact only complained of neuritis which rendered both arms almost useless. His gait was rather slow but he walked fairly well and seemed in good physical condition. He gradually improved and after two months returned to Colorado and was able to pursue his work for more than two years. He then had an attack of illness the nature of which I do not know, but understand he was in a Denver hospital for several months because of trouble with the urinary bladder or prostate gland. A Louisville relative visited him about that time, and finding him much improved brought him home and I was again asked to see him about two weeks ago.

The condition of the patient had markedly changed during the last three years; his movements were very slow and uncertain; his joints seemed to be stiffened; he had trouble putting his hands to his face because of the slow movements. He had two or three attacks after his arrival here characterized by chills, fever, etc.

Dr. John J. Moren saw the patient with me, and much to my amazement made the diagnosis of late encephalitis. The man became progressively worse and died yesterday March 13th. This brief report is made hoping Dr. Moren will tell us something more about the case.

## DISCUSSION

**John J. Moren, Louisville:** I had the opportunity of seeing the patient through the courtesy of Dr. Frazier as he has stated. I have under observation a railroad man with almost an identical history. He had suffered with what was thought to be neuritis in his arms. These

\*Clinical report before the Louisville Medico-Chirurgical Society.

attacks usually persisted two to four weeks and then apparently completely subsided. Two or three years afterward he developed a typical Parkinson's syndrome, muscular rigidity, slight tremor, salivation, slowness of motion, etc. In former years many of these patients became delirious, but I have seen no delirium during the last year.

The feature that appeals to me especially is the treatment of these cases. If I ever encounter another patient in the early stages of the neuritic or myoclonic type encephalitis I shall administer by mouth 1-30 grain nitrate of strychnine with five to seven drops of pituitary solution three or four times daily. In a discussion before the Neurological Section of the New York Academy of Medicine recently very favorable results were reported from this form of medication.

The past week I saw a patient who developed encephalitis in February, who presented the picture Dr. Frazier has described. The man was markedly lethargic and could scarcely swallow. I suggested the hypodermatic administration of strychnine, and within twenty-four hours he could both swallow and talk; but I understand improvement was only temporary.

As to the diagnosis: The diagnosis is based upon what can be seen, slow movements, decided salivation, peculiar muscular rigidity (not spasticity), absence of marked tremor, absence of clinical findings, and low blood pressure in elderly people.

**C. W. Dowden, Louisville:** I have seen several patients presenting symptoms almost identical with those described by Dr. Frazier and Dr. Moren. I do not know whether or not these patients had chronic encephalitis, but the similarity of symptoms was most striking. In all these cases we found a very low metabolic rate. I recall a woman whose rate was minus 29 per cent, and a man whose rate was minus 19 per cent. This to my mind was sufficient to warrant thyroid medication, and I think therein lies the benefit accruing from pituitary treatment. It is recognized that the thyroid is concerned in calcium metabolism, and that there is an intimate inter-relationship between the thyroid and the pituitary gland. These patients improved wonderfully on thyroid treatment, which was administered because of the low metabolic rate.

**John J. Moren, Louisville:** In my previous remarks I referred to the acute stage of what was called neuritis (encephalitis); that is the time to administer pituitary solution. It is quite true that later in the disease the patient shows a low metabolic rate.

Thyroid medication, as stated by Dr. Dowden, might do some good, but I have seen no special

report on that phase of the subject. It is not mentioned in the most recent article I have seen on the sequelae of encephalitis.

**Leon K. Baldauf, Louisville:** I have seen some rather interesting cases along the line of Dr. Dowden's discussion on calcium metabolism. I gave these patients enormous doses of calcium lactate and they seemed to be greatly benefitted. However, in the last stages of encephalitis nothing appears to do any good. When Parkinson's syndrome has developed this is about the last stage and irreparable damage has already been done. This usually occurs two or three years after the original attack.

While at first we thought encephalitis was a trivial affection without special danger to life, we now know that it is a very serious disease, particularly on account of its late stages.

**S. G. Dabney, Louisville:** An interesting feature in the case reported is that the man did not have distinct paralysis but rather a general weakness of the entire group of ocular muscles. He saw double in every direction but his vision was good. This occurs in a small percentage of cases of encephalitis.

Dr. Skinner will recall a woman he referred to me because of double vision. She had abducens paralysis also paralysis of facial nerve. She had encephalitis and has never regained her normal health nor do I think she ever will. She is weak and much more easily fatigued than the normal individual.

Another similar patient was a trained nurse who had double vision when I saw her, and the diagnosis of encephalitis was made largely on the ocular symptoms. She later became apparently well, but I understand is easily fatigued and unable to perform the customary amount of work.

---

**Habitual Vomiting in Infants.**—Vaglio encountered 20 cases of habitual vomiting among the 4,000 infants at the Naples children's clinic (less than 0.5 per cent.). Syphilis was certain or probable in 75 per cent. of this group of 20 infants. The 5 free from suspicion of syphilis all showed nervous hyperexcitability, and the fontanels were taut. Laverigne noted excessive intracranial pressure in 2 of his 3 cases of habitual vomiting, and in one of Vaglio's 5 cases hydrocephalus developed later. He therefore ascribes the excessive reflex excitability of the stomach to the central nervous system. Dollinger comes to the same conclusion, but is inclined to ascribe it to some birth injury of the brain, as there is always a history of difficult delivery in these cases.



## PERSONAL OBSERVATIONS ON THE TREATMENT OF GOITER.\*

By JOHN R. WATHEN, Louisville.

When asked to present this paper before the newly organized Surgical Section of the State Medication Association, I realized the fact that we were expected to deal with this subject in a somewhat different way from that type of a paper presented before a general section and we should confine our remarks to observations which would especially interest those doing Surgery.

After an experience of over twenty years in goiter operations, we feel that if we had known what we now have learned from our failures as well as from our successes, we could have not only been of more benefit to our patients but could have had a lower mortality.

It is with some hesitation that I discuss this subject before you men, who are doing these operations, because I fully realize and appreciate that you yourselves have also had rather forcibly and painfully impressed upon you your mistakes and failures, but I believe that by a free and open discussion of such topics we can evaluate the work of recent years.

The same change will have to take place in referring these cases to the surgeon that has after many years taken place in surgery of the appendix, gall-bladder, and prostate gland.

While I am not willing at the present time to say that goiter is at no time a medical disease, I am quite emphatic in saying that many cases which come to us after supposed medical treatment have in most cases been given that treatment which was little suited to such cases or treatment which was positively harmful. In other words a surgical condition can be better prepared with medicine by a surgeon and better studied by him than by the average medical men treating such cases.

In making such a statement I am quite sure it will meet with opposition, but that same opposition occurred only a few years ago when surgeons asked that appendicitis and gall-bladder cases be referred directly to them to handle from the very first. This has also been demonstrated in the treatment of the enlarged prostate which needs careful study and preparation before operation.

In recent years, due to a wider dissemination of medical and surgical knowledge among the laity, the benefits derived from

surgery are causing a larger number of goiter cases to seek aid direct from surgery and not delay with medical treatment until the case is almost hopeless. This delay increases the operative risk and lessens the prospect of a complete cure.

For a practical consideration I would divide goiter cases into three classes, according to three periods of life.

1. The adolescent type seen in young girls from 15-25 years and non-toxic.

2. The exophthalmic type which occurs usually from 25-35 years and is toxic.

3. The toxic-adenoma type which occurs usually from 35-45 years and is also toxic.

Of course other types of non-toxic enlargements, as adenomatous and cystic goiters may occur in any and all of these decades, but they cause little or no systemic disturbances and are usually operated upon for their local symptoms and the disfigurement.

The adolescent or diffuse colloid goiter seen in young girls is a common physiological enlargement due to excessive colloid deposit, and is due to lack of iodine in the system as has been demonstrated by Marine, Kendall, and others. These cases seldom need operation, but in young nervous girls are often mistaken for Graves Disease.

Exophthalmic goiter is due to an excessive secretion of an abnormal hyperplastic thyroid gland and shows an increased metabolic rate, a nervous syndrome, usually exophthalmos and gastric and intestinal disturbances with vomiting and diarrhea.

These cases require a very careful study and preparation before any operative procedure should be considered. We have found that quiet and rest, avoiding all labor and excitement are very essential. Reverdin many years ago called attention to the favorable action of fresh preparations of Tincture of *Strophanthus* given in small doses for a considerable time.

This drug does not act directly on the heart but the gland itself and the nervous system. Osborne, in his new work on Therapy, has stated that *Strophanthus* when taken by the mouth has little or no action on the hearts as has digitalis, but rather upon the nervous system.

After several weeks of preparation with rest, bromides and *Strophanthus* we then begin the administration of digitalis (*Upsher Smith's Tincture Digilutin*) for about one week before operation.

Very few if any exophthalmic goiter cases should be subjected to a radical operation until both poles of the gland have first been ligated under local anaesthesia. This is best accomplished by the administration of mor-

\*Read before the Surgical Section of the Kentucky State Medical Association, Crab Orchard Springs, September 16, 17, 18, 19, 1923.

phine and scopolamine one hour before operation and then the injection of novacain and adrenalin.

We do not like the usual classical curved incision along the crease in the neck, but rather a straight incision parallel to the sterno-mastoid muscle at its inner border, this later incision allows a better view of the upper pole by retraction.

It has been our observation that most operators, and it was likewise my own mistake in my earlier work, to make too superficial a ligation, only tying off the blood-vessels and not including the most essential things—the lymphatics and the trophic nerves which are deep and found only at the upper pole.

We have always believed that it is a great mistake to make the pole-ligation and then in ten days after, remove the enlarged lobe. It is true, these cases usually stand this second operation fairly well, but what is the necessity of subjecting them to such a major operation when, if we will only wait a few months, about 50 per cent of these cases will be cured or as greatly benefitted as if they had the lobe removed. Of course, I can understand why this is not done in many of our large clinics because these patients have traveled a great distance and cannot be kept under observation by the Surgeon who operated and they do not wish to have to return a great distance later.

Those cases, after pole-ligation which are not cured and need a more radical operation, should not only have the enlarged lobe removed entirely, but should have the greater part of the other lobe removed as well, if we expect a rapid and complete cure.

The idea advanced by many operators of resecting both lobes and leaving the posterior portion of each behind has led to a high mortality and poor end-results, in that the portion left often takes on new growth.

I no longer practice such a procedure and only mention it to condemn it, notwithstanding it has the endorsement of a number of excellent operators.

I am firmly convinced that the high temperature and the fatal ending of toxic goiter cases is due entirely to leaving too much gland behind to rapidly poison the system and to not affording abundant drainage with both gauze and tube, and if these things are done there will be little need to pack the patient in ice or leave the neck wide open packed with gauze as advocated by some.

The mortality for exophthalmic goiter operations should not be over 2 per cent in well prepared and well studied cases. While

the metabolic test is valuable in goiter surgery, and especially so in differentiating toxic goiter from a neurosis, we do not believe it is ever any indication for operability. The cases which have had the highest metabolic rate, and we have had a number ranging from 70-90 have stood operation as well or better than those of lower rate. It is more of a sign of the toxicity of the goiter than the condition of the patient's heart and nervous system. It is valuable in determining the final cure of our toxicity, but like all laboratory methods it has its limitations and should be used only as an aid to our clinical study of each case.

The toxic adenoma types of goiter seen in the third decade, most often around and associated with the menopause in women are the most serious to treat and even in the hands of the best operators the mortality will be about 4 per cent and over.

These are usually small enlargements of the thyroid which have existed over a number of years and by the slow absorption of the toxine have damaged the cardio-vascular system.

These are the cases where the administration of iodine make worse, and pole-ligations are of little or no value. Preparation for operation should consist principally of absolute rest in bed and of fortifying the heart by digitalis for some days before a radical operation.

These cases do not yield to preparation as well as the exophthalmic type and the mortality will largely depend upon the class accepted for operation and the skill and experience of the individual operator.

The mortality rate in all goitre operations largely depends upon how we classify our cases, as to whether the goiters are associated with hyperthyroidism or not. In the non-toxic types the dangers are only those which would attend any operation of equal magnitude, while in the toxic types, the risk lies in the disease or the effects of the toxic condition on other organs.

No paper upon this subject would be complete without a few observations on the technique of the radical operation. While the knife is by most operators used to make the collar incision advised by Kocher, the writer has always preferred to use the blunt pointed curved scissors of Mayo for the reason that we can follow a natural line of cleavage between the deep ribbon muscles on the one hand and the platysma and skin on the other, thus avoiding the separation of these two latter structures and allowing a closer approximation with metal clips in the wound closure to avoid any unsightly scar.



In simple uncomplicated small thyroid enlargements it is not necessary to cut the sterno-hyoid and sterno-thyroid muscles but they should always be divided and well retracted in all difficult toxic-goiters. Even in some cases I have cut the sterno-mastoid muscle as its lower attachment to give a better exposure of the lower pole of the lobe.

After the enlarged gland is exposed, the usual method of slipping the forefinger under the deeply lying lobe and elevating or dislodging it, is not as a rule so desirable as to grasp the lobe with Volsellum forceps and gently lift it from above instead of pushing it up from below. In this way we avoid injury to the recurrent nerves and tearing of the many friable veins.

In bilateral enlargements it is often safer to divide the isthmus and rotate each lobe outward. Also in large cystic goiters, if we evacuate the contents of the cyst the difficulty of removal is overcome as we can easily get at the blood supply which before had been covered over.

We should avoid stripping off the peritracheal fascia and leaving too bare the trachea, as this fascia contains the nerves which supply the mucous membrane on the inside of the trachea and mucus rapidly collects in spite of atropine administered.

On three separate cases we were compelled to introduce at once a tracheotomy tube to save the patients. All of these cases recovered. In this connection we would suggest that the operator always have ready the long tracheotomy tube devised by Chevalier Jackson as the usual tube of Luer is not long enough, for the goiter always causes the trachea to be much deeper in the neck than in the normal individual.

If such a complication results after the patient has been returned from the operating room, the same tube can be introduced without pain and with much relief to the cyanosed patient.

With very toxic cases where the risk is great and we wish to take no chances, we do not attempt to suture muscles or skin, but pack the neck open with gauze to be removed later and at which time the wound closed.

If after the operation is completed there is a general oozing, we do not hesitate to pack gently the cavities with plain gauze and, also, if post operative hemorrhage occurs, as it has quite often and sometimes to a very alarming state, we open up the incision without any anaesthesia, rapidly turn out the clots and pack carefully with gauze. It is seldom that you can find a large vessel spurting and the use of a forceps is danger-

ous at this stage. In this connection I would suggest the dictum, "When in doubt pack with gauze." Administer abundant opiates to keep your patients quiet to avoid vomiting and resultant hemorrhage.

In conclusion I would say that I know of no surgical condition where good sound judgment and a ripe experience are of more value than in operations on the diseased thyroid.

## OBSERVATIONS ON SURGERY OF THE STOMACH.\*

By J. GARLAND SHERRILL, Louisville.

The development of gastric surgery is one of the accomplishments of the last half century. This seems strange when one considers the importance of the stomach in the process of digestion and the assimilation of food. Following the work of Beaumont in studying gastric secretion very little had been accomplished in the way of advance in this field until the investigations of Billroth and Wolfler in 1881.

Rydygier, in 1881, performed the first operation for the cure of gastric ulcer by resecting a large ulcer on the posterior wall. Gastro-enterostomy was first performed about eleven years later (1893) by Doyen. At about the same time he and Talma independently recognized that pyloric spasm was the chief factor in maintaining hypochlorhydria, and that this prevented healing of the ulcer. Since then much has been added to our knowledge concerning the normal as well as the diseased stomach both from a physiological and surgical standpoint, by American, English and Continental surgeons, internists, and physiological chemists.

The early surgical work in this field consisted mainly in operations undertaken for malignant disease in which patients came under observation in the advanced stages and demanded relief of obstruction produced by the carcinomatous mass. The diagnosis was made in most instances after a palpable tumor was demonstrable. The mortality of this period was necessarily high and the end-results poor. However, as a result of the efforts of the pioneers in this work there has been marked improvement in our knowledge of pathological lesions affecting the stomach, in our diagnostic methods, and in the practical surgical procedures for the relief of conditions which do not promptly respond to medical therapeutic measures.

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September, 1923.

The early surgical workers in this field found certain mechanical problems which had to be corrected to obtain the best results. It is well for anyone engaged in this field of surgery to examine closely the steps taken by these pioneers who have brought the operative technique to the accepted standard of today. Many operative methods which were employed during the developmental stages, notably the Murphy button, Senn's plates, and the McGraw ligature, have all been superseded by simpler suture methods.

One of the greatest advances in gastric surgery is improvement in diagnostic methods most notably in the field of roentgenology. Much credit must be accorded the workers in this technical field for valuable assistance in the clinical study of gastric diseases. Taken in connection with anamnesis, which all consider the most important part of the study of a given case, fluoroscopy and radiology become most valuable in confirmation of clinical observations as to the presence or absence of gastric disease. While not infallible, nor incapable of incorrect reading, these studies bring patients under treatment both medically and surgically at a time when there is yet possibility of doing something for their permanent relief.

It will be our purpose to mention a few salient points which should be always borne in mind when dealing with gastric pathology. Any person suffering from so-called indigestion, dyspepsia, heartburn, persistent eructations of food, nausea, vomiting, black alvine dejecta, or loss of flesh, should be immediately placed under observation. When this is done there is little doubt as to the possibility of an accurate diagnosis. It must not for a moment, however, be concluded that a correct diagnosis may be made in every instance by either physical, chemical or roentgenological examination, but the percentage of error may be reduced to the minimum.

Most of the indications for operations upon the stomach are the result of mechanical causes. Among these may be mentioned: (1) pyloric stenosis occurring in infants; (2) pyloric stenosis in adult life the result of spasm caused by ulcer, hyperacidity, etc., cicatricial contraction, adhesions (external), benign growths, syphilis; (3) for the purpose of nutrition in esophageal stricture; (4) foreign bodies, hair balls, etc.; (5) diaphragmatic hernia.

In discussing the diagnosis of gastric lesions one of necessity must be quite brief. In taking the history it is important that due consideration be given to the patient's complaint. In every conversation he will per-

sistently refer to some particular fact. If the attendant fails to observe this he may be led into serious error. The other points in the history are:

(1) Change in the appetite,

(2) Pain, continuous, paroxysmal, intermittent, mild or severe, persistent soreness, time it occurs, whether or not relieved by food,

(3) Nausea, fainty, sick feeling,

(4) Motor disturbances, fulness in epigastrium, belching, palpable and visible gastric contractions, seen in congenital pyloric stenosis in infants, also in spasms of the pylorus in adults, and in cicatricial obstruction not yet complete,

(5) Vomiting is a frequent symptom and may be due to the spasm produced by irritating material in the stomach, or by overdistension with retention and fermentation. One should bear in mind that in gall bladder disease vomiting is not infrequent and is probably due to pyloric spasm. Ochsner has called attention to the fact that emptying the stomach by lavage is a more effective method of relieving gall stone colic than the administration of morphine. It should be remembered that in pyloric obstruction vomiting often occurs early after the ingestion of food, unless the musculature has become weakened, when vomiting of the residue may occur as late as twenty-four hours after food is taken. Then, too, vomiting in gall bladder disease usually occurs some hours after eating. Careful consideration should be given to the time, character and persistence of the vomiting, as well as to the vomiting material,

(6) Hemorrhage is a most important symptom whether present in gross or microscopic amount either in stomach contents or stool. The hemorrhage occurring from venous stasis in hepatic cirrhosis does not mean the presence of either gastric ulcer or carcinoma. The character and amount as well as time of occurrence of hemorrhage must receive consideration. Not infrequently in acute ulcer extensive bleeding may endanger life,

(7) Loss of flesh is often noted in congenital pyloric stenosis, in ulcer, and also in carcinoma. It is often a marked symptom, but in many instances is not present in the early stages,

(8) Anemia is a common symptom and may be due to malnutrition or hemorrhage. When hemorrhage is persistent in addition to pallor there is a tint similar to icterus probably the result of absorption of blood pigment from the intestine.

(9) Cachexia, the peculiar color noted in advanced carcinoma, develops late in the



disease, and when present is evidence that a late stage has been reached.

Roentgenological examination requires a high degree of skill and wide experience to correctly interpret the findings. Just as the repeated observation of pathological conditions by the surgeon at the operating table makes him a better pathologist and diagnostician, so does abundant material improve the diagnostic acumen of the roentgenologist.

The surgeon who reads the plates with the roentgenologist and the roentgenologist who follows the patient to the operating table, each is made more proficient in his particular field.

I would urge the importance of arriving at a correct diagnosis and positive indication before advising operative intervention. It is the surgeon's duty to eliminate so far as may be possible exploratory operations. This can only be done by the employment of every available diagnostic means. That accurate diagnosis is always possible before operation is a mistaken idea. Most surgeons will admit errors, some of which one realizes should have been avoided. A careful study of the sources of error may point to some overlooked facts in the history, incorrect interpretation of the skiagram, or inability to evaluate the clinical symptoms. Mention has been made by several surgeons of operations performed with a view to gastroenterostomy, when later developments proved the symptoms were due to gastric crises of tabes. In a larger number of cases gall bladder disease was present when the diagnosis of ulcer was made. Careful X-ray study will lesson this error.

Two cases have come under our observation which seem to point to an important moral. The first patient presented loss of flesh, persistent soreness at tip of the ensiform cartilage, attacks of severe pain in epigastrium extending through to the back, with irregular spells of vomiting. Fluoroscopic examination failed to reveal an aneurism, the stomach usually emptied itself in six hours, but occasionally there was some delay; there was no cap formation. Two skiagrams showed a horizontal line at the left extremity of stomach from pylorus to lesser curvature, while others showed irregularities like rugae, which apparently indicated only partial gastric contraction and expansion. There were no incisurae present. Chemical examination gave normal acidity and hydrochloric acid content; no blood in stomach contents or stool; no glycosuria present. Diagnosis of pyloric obstruction was made, probably malignant. Under anesthesia a palpable mass was detected which seemed to confirm our opinion. The Wassermann reaction was negative. At opera-

tion the lesion was found to be primary carcinoma of the pancreas, no other pathology present except an appendiceal enterolith.

The second patient was an emaciated man with a scaphoid abdomen, a painter by trade until nine months previously. He suffered from persistent nausea, frequent vomiting and pain. The history was negative to lues; Wassermann negative. There was present a marked neurotic tendency. His abdomen was decidedly scaphoid, a condition often noted in plumbism and in certain brain lesions. Plumbism was excluded as was also any brain lesion. Roentgenological examination negative except slight retention of barium in stomach after six hours; no incisurae. After failure to obtain relief from medical measures, he came to operation with diagnosis of pyloric obstruction from ulcer. The gall bladder was found normal; no adhesions. The gastric wall was thickened at the pylorus and a small, rounded mass was felt in the muscularis. The orifice was constricted somewhat, but not completely obstructed. In view of these facts proposed gastroenterostomy was abandoned, and the mass, about the size and shape but somewhat firmer in consistency than a lymph node, was removed. Dr. Stuart Graves reports the mass removed shows fibrous tissue with excessive amount of collagen; no evidence of tumor.

The first case causes us to pause and consider particularly the relation of pain at tip of the ensiform, and what was the reason for its increased and paroxysmal severity? Also what caused the failure to form a duodenal cap under fluoroscopic examination? There was no gall stone or pancreatic stone palpable. The size, hardness and extent of the mass seemed to exclude the presence of pancreatic inflammation. We concluded that the constant pain was due to pressure of the neoplasm within the capsule of the pancreas and on surrounding structures. The periodic attacks of pain were probably due either to pressure on the pancreatic duct or to obstruction at the pylorus. We also reasoned that the failure to form a cap was due to encroachment of the neoplasm upon the pylorus and duodenum.

The second case was not clear in its pathology, since there was nothing present except the small mass to account for the constriction.

The operation which has proven most satisfactory in infantile pyloric stenosis is that first performed by Rammstedt, which consists of a longitudinal incision through the two outer coats to the submucosa. This relieves the constriction and no sutures are necessary. In a few cases it may be necessary to pass small forceps under the muscularis

and stretch the tissues. If the mucosa is injured it may be sutured with safety. Gastroenterostomy is employed by some (Deaver) to overcome this accident. I have not found the latter procedure necessary. The Rammstedt operation is positive in the relief of this condition, is very simple, almost bloodless, produces practically no shock, and its mortality much less than from gastroenterostomy. We are greatly indebted to Downes for his work in this field, and I have taken the liberty of employing his illustrations to show the steps of the operation.

I will not consume your time in consideration of the various methods of performing gastroenterostomy: The anterior method has not proven as satisfactory as the posterior; it should be employed only in cases in which the posterior method can not be utilized; for example, where temporary relief only can be offered in carcinoma of the posterior wall which prevents use of the posterior route.

The important consideration in the posterior operation is to place the stoma at the most dependent part of the stomach, which is usually on a line directly downward from the right side of the oesophageal opening as shown by Mayo.

Second in importance is the size of the stoma. This should be large enough so that contraction need not be feared, at least two or two and a half inches. The sutures should be locked at each end of the incision so that it will not be diminished in size by tension on either line of suture; the sutures should be snugly attached to the mesentery to prevent herniation through the rent.

I have found that in partial resection of the stomach it is sometimes difficult or impossible to bring the viscus downward through the rent in the meso-colon to approximate it to the jejunum. Under such circumstances I have drawn the intestine upward through the opening in the mesentery and completed the anastomosis, and then have been able to fix the line of suture to the meso-colon without tension, and with a good functional result. The accessible portion of the jejunum is usually employed and is drawn taut before the sutures are applied.

There are certain conditions which may develop after this operation to which attention should be directed: The vicious circle with regurgitation of intestinal fluids into the stomach either through the pylorus or the new stoma, with gastric distress, nausea and vomiting. This may be avoided in two ways: First, either by closing the pylorus, or by placing the stoma as advised by Mayo or by jejunostomy in cases where the anterior

method is employed. Second, following gastro-enterostomy in about two to four per cent, as mentioned by Judd and Rankin, a jejunal ulcer develops and causes the patient great distress. Its onset at say the end of a year of comfort is shown by recurrence of the pain of which the patient complained before operation. Under such circumstances excision of the jejunal ulcer followed by secondary gastroenterostomy has not been satisfactory. Judd and Rankin recommend closure of the gastroenterostomy after the jejunal ulcer has been resected and employment of a plastic operation at the pylorus. They claim that primary resection of duodenal ulcer without gastroenterostomy will do away with this small percentage of jejunal ulcers and avoid a serious and difficult operation for its relief.

Resection of the stomach, first performed by Billroth in 1881, is indicated for the removal of gastric ulcer or carcinoma when it can be accomplished safely. It is the operation of choice, performed in accordance with the method No. II of Billroth, or by closing the wounds in the stomach and duodenum, and adding posterior gastroenterostomy. The writer has found the later plan most satisfactory, and in some cases in which the mechanical obstacles of the Billroth operation are too difficult, it becomes the method of necessity. As already mentioned, in some instances posterior gastroenterostomy can be best done by bringing the intestine upward through the meso-colon and there making the anastomosis to the stomach.

Gastrostomy is indicated in the small percentage of cases in which there is present an inoperable stricture or carcinoma of the esophagus, or where it is necessary to nourish the patient to a point where the esophageal operation becomes safe.

Mayo states that gastroenterostomy will cure more than ninety per cent of duodenal ulcers, and the excellent pyloroplastie operation of Finney with excision of the ulcer will add at least five per cent to the successful surgical group. There remains, however, a small, but definite, group of duodenal ulcers with deep excavations which may cause severe hemorrhages, in which gastroenterostomy will fail to relieve the hemorrhages and other severe symptoms, and the pyloroplastie operation cannot be applied. In such cases, at least, partial gastrectomy of some type is the operation of choice. The field for partial gastrectomy is much wider in cases of gastric ulcer than in cases of duodenal ulcer. Gastric ulcers are usually greater in extent. They often slowly perforate, forming excavations into the pancreas, and



lead to the formation of extensive and crippling adhesions. Hemorrhages from these deep excavations are not infrequent, and may prove fatal, and at best in the case of the larger ulcers a crippled, inefficient organ remains after excision of the ulcer with or without gastroenterostomy. In the smaller gastric ulcers along the lesser curvature, which comprise about seventy-five per cent of ulcers of the stomach, the conservative cauterization of Balfour with gastroenterostomy has proved successful in at least ninety per cent of the cases to which it has been applied. For extensive ulcerations in the vicinity of the pylorus, the partial gastrectomy of Rodman (Billroth No. 2) has held steady place in the esteem of the conservative surgeon. Judd has shown that gastric resection in continuity for the larger ulcers of the body of the stomach gives satisfactory results. The Billroth 1 and 2, and the Balfour-Poly methods of partial gastrectomy, all have their special fields of usefulness. Each case must be treated on its merits, and the decision as to procedure in a given case cannot always be made until surgical exposure makes accurate examination of the lesions possible. (W. J. Mayo, Surgery, Gynecology & Obstetrics, 1923, xxxvi, 447).

My experience in gastric surgery leads me to the following conclusions:

(1) A proper anamnesis is of great value in the early recognition of gastric lesions.

(2) A joint study by the clinician, the roentgenologist, and the surgeon, will markedly lessen the percentage of error.

(3) Rammstedt's operation is best for infantile pyloric stenosis.

(4) Acute and subacute peptic ulcers are best treated by the medical side. Deaver (Surgery, Gynecology & Obstetrics, 1923, xxxvii, 144) says that he is fully in accord with his medical friends that acute and subacute peptic ulcers properly belong to them; but when the ulcers become chronic, which he believes most of them do, they are then surgical and to treat them medically is to court disaster.

(5) Gastroenterostomy alone is the method of choice in ulcers with repeated hemorrhages which prevent removal of the ulcer. I have also seen complete and permanent relief follow its employment in cases where there was marked infiltration about the ulcer with close attachment to the liver preventing resection. Gastroenterostomy is rarely necessary in the operation for "saddleback ulcer" of the lesser curvature causing hourglass constriction, as circular resection suffices in practically all cases. "It may occasionally be best to make a gastroenterostomy after cir-

cular resection." (Deaver). In the management of perforating ulcers of the stomach or duodenum, simple suture with or without cauterizing the ulcer and without gastroenterostomy may result favorably when the patient's condition prevents extended operative manipulation. The factor of safety is always to be kept in mind, therefore gastroenterostomy is added, when its performance seems safe:

(6) The Rodman (Billroth No. 2) operation of partial resection is indicated in all ulcers and in such cancers where it can be safely applied. When it is not feasible resection followed by posterior gastroenterostomy is the operation of choice:

(7) How does gastroenterostomy benefit ulcers? By providing prompt passage of food from the stomach and by diminishing the hyperacidity of the gastric contents:

(8) The greatest portion of the action of operations for gastric disease is mechanical, and after healing is complete we must ask for the assistance of our medical friends for the proper dietetic and medicinal care of these patients.

#### Thermal Death Point of B. Botulines Spores.

—The thermal death point of the spores of *B. botulinus* in the juices of thirty-six varieties of canned food on the American market has been determined by Weiss. The thermal death point varies with the hydrogen-ion concentration of the particular food in question. The thermal death point also depends on the consistency of the particular food, the more fluid products requiring a shorter period of exposure at a given temperature than the less fluid ones. The thermal death point is also influenced by the presence and concentration of syrup. The heavier the syrup, the longer the period of exposure required at any one temperature.

#### Plastic Cholecystenterostomy.

—Tagliavacche demonstrated at the local surgical society in 1919 an apparently healthy dog on which he had performed a special plastic operation six months before. (The technique was described in the *Prensa Medica*, Oct. 30, 1919.) Three years later he killed the animal, and the illustration here shows the perfect success of the operation. The liver is of normal size and aspect. The ligature of the common bile duct is still in place, and the passage is still impermeable. The new plastic duct, uniting the gallbladder and the cystic duct with the duodenum, had evidently worked perfectly during the three years and three months before the dog was killed.

## AN UNUSUAL CASE OF TETANUS.\*

By JNO. H. BLACKBURN, Bowling Green.

The reporting of an individual case of any condition should have some such unusual features as to make it worth recording and we believe that the manner of infection in our case is so much out of the ordinary as to merit its being recorded.

Mrs. A. White, age 23, was seen in consultation with Dr. F. D. Reardon at 9:00 a.m., June 15, 1923. Patient was very thin, slender, weighing about 90 lbs. She had been married four years, one child three years old, and had had two induced abortions within the past two years.

She had a so-called "flu" in March and April, 1923. She missed the menstrual period the first of May. On June 3rd she used a chicken feather with the idea of bringing on the flow, introducing the soft end of the feather. Since flow did not appear another feather was used on June 6, at which time she noted a slight blood stain on the feather and finger and took it for granted that the finger-nail had injured the os slightly.

On June 7th the patient drove through to Louisville, 140 miles, in an auto, thinking that this would help to bring on the flow. While there she called a physician to the hotel who prescribed something for the relief of the "cramps". She returned to Bowling Green by auto on June 9th, at which time there was some flow.

On June 11th she passed a fetus approximately 2½ to 3 inches in length and on June 12th a physician was called who removed the placenta and used a vaginal douche of creolin. On June 14th she complained of pain and rigidity in the muscles of the jaw and stiffness of the back of the neck.

When seen by Dr. Reardon and myself at 9:00 a. m., on June 15th the evidences of tetanus were unmistakable the trismus and risus being well marked and the head being retracted to a marked degree. The clinical course was a classical picture of an extremely severe case of tetanus, there being a marked loss of flesh because of her inability to swallow. She had the well defined tonic and clonic spasms, and there was no amelioration of the symptoms for some four or five days. A vaginal examination showed no indication of any ordinary infection of any kind.

The antitoxin was given 10000 units intraspinally and 10000 intravenously at 11:00 a.m. At 8:00 p.m., she was given 10000 units in the spinal canal and 20000 intravenously.

At this time the spinal fluid withdrawn was distinctly cloudy. On the following five days she received 30,000 to 40,000 units each day until a total of 160,000 units were given.

In addition to the antitoxin she was given hypodermics and morphin, and a mixture of sodium bromide, 30 grs. with chloretone, 20 grs. by rectum as necessary.

At one time she showed a slight anaphylactic shock at the beginning of an intravenous administration, and on the 8th day she developed an extremely severe serum rash, the typical urticarial wheals, which subsided in three to four days. A careful examination of this patient failed to reveal any probable or possible source of infection for the tetanus bacillus other than the uterine origin.

The patient had a rather slow convalescence, but a recent report is to the effect that he is now in her usual condition of health.

The two feathers that were used by this patient were from a bunch that had been plucked from a rooster some months previously, but both were destroyed. We, however, secured another from this bunch of feathers and submitted it to Dr. Stuart Graves, Louisville, who later reported that he was "unable to isolate the tetanus bacillus, but the work was rendered unusually difficult by the presence of an abundance of bacillus subtilis which is also an anaerobe."

There has been considerable discussion as to the manner in which the toxin reaches the spinal centers and produces the muscular spasms, but as the result of experimental and clinical observations certain facts are rather well established.

In the first place it may be stated that the bacillus does not of itself produce any symptoms, but must elaborate its poison which by its absorption causes the symptoms. The rate of growth of the bacillus and the degree of rapidity with which the toxin is formed no doubt explain the varying periods of incubation that are seen. The observations during the World War of the occurrence of tetanus following the removal of a foreign body weeks or months after the original injury established the fact rather conclusively that the bacillus requires the presence of some other time, and this lead to the order requiring that a dose of antitoxin be given whenever an operation was done for the removal of any foreign body of any character.

Tulloch has called attention to the fact that the tetanus bacillus grows better in symbiosis with other organisms, mentioning the *B. Welchii* and *vibrio septique*, and several observers have suggested that ordinary pyogenic bacteria favored the growth of the *B. tetani*. In the development of the spores the tetanus

\*Read before the Kentucky State Medical Association, Crab Orchard Springs Hotel, September, 1923.



bacillus requires the presences of some other organisms. In our case the anaerobe, *B. subtilis*, as found by Dr. Graves, no doubt accompanied the tetanus bacillus and favored its growth.

Tulloch has made agglutination observations for a series of 100 cases of tetanus and as a result of this work divides the tetanus bacillus into four types: type I, 41 cases; type II, 20 cases; type III, 35 cases; type IV, 3 cases. The lowest mortality was shown in type I.

For years we have taught that the earlier the development of symptoms after an injury the more fatal the case, but the different types of the bacillus offer a probable explanation for the recovery of some cases developing even as early as three to five days after injury.

As to the manner of absorption of the toxin it was formerly thought that all of the poison was taken up directly from the source of supply in the wound and carried by the peripheral nerves to the motor cells in the cord. Recent observations indicate that the greater part of the toxin is no doubt carried by the axis cylinders but that a portion of it is also carried through the lymphatic channels of the epineurium and perineurium. This manner of absorption and transmission undoubtedly holds in the cases of so-called tetanus ascendens or local tetanus. But in the cases of tetanus descendens in which the trismus and retraction of the head occur before the local spasms develop, the toxin is taken up by the general circulation, carried throughout the body, is absorbed by the different peripheral nerves and reaches the cord quickest in the shortest nerves, thus leading first to the development of spasms about the head. In our case we think the free blood and lymph supply of the pelvic organs would lead to a rather full and rapid absorption of the toxin.

In a consideration of the manner in which tetanus may be acquired, the most frequent source is the puncture wound with the soiling from the earth or dust, these wounds of course being found most frequently on the feet and hands and including the rusty nail, pitchfork, splinter, etc. Another frequent source in former days was the so-called Fourth of July tetanus from the top pistol wounds. Gun-shot or pistol-shot wounds still exist as factors in some cases, especially if the surgeon has failed to use the prophylactic injection of antitoxin. Other sources of infection have been reported in cases following vaccination, after the use of gelatin as a hæmostatic, from the use of diphtheria antitoxin, from the ingestion of green vegetables, and

during the great war as a complication of trench foot.

As a postoperative complication tetanus has been reported in both infected and aseptic cases, subphrenic abscess, gangrenous appendicitis and similar cases being followed by its development. Wohlgemuth reports 27 cases following aseptic operation, including herniotomy, hysterectomy, ovariectomy, cholecystectomy, appendectomy, nephrectomy, castration, colpoperineoplasty with Alexander-Adams Operation, and operation for abortion. He also reports two cases after intestinal resection. In all of the earlier cases the catgut suture material was held as the source of the infecting organism, but the occurrence of only isolated cases rather than a series, as well as the failure as a rule to find the tetanus bacillus in the catgut has caused observers to look for some more probable source.

The fact that the tetanus bacillus is found in the feces of animals, especially the horse, in such large proportions, and that in man it has been found in as high as 5 per cent of cases examined would indicate that the intestinal tract is the most frequent source in the cases of so-called idiopathic tetanus. In most of the postoperative cases it will be seen that the intestines have been subjected to considerable handling even if not subjected to any operative procedure. After a fairly complete review of recent literature on tetanus we find only the one case, that of Wohlgemuth, in which it was stated that tetanus followed an abortion. In our case there was no local or systemic evidence of any pyogenic infection, the pelvic condition not suggesting in any way the presence of infection aside from the tetanus.

In this case we depend largely on the use of antitoxin and are of the opinion that its early use in the spinal canal with its use intravenously and to the therapeutic limit was the principal factor in saving the life of the patient.

We of course recognize the necessity for the proper care of the wound of infection, as a preventive measure and in the treatment of the condition to destroy the source of the poison, but in this particular case we used only one vaginal douche, there being no indication for a curettage or other operative procedure.

## DISCUSSION.

**J. G. Sherrill, Louisville:** This is a very unique case and one that I am very pleased to hear about. I do not think that the amount of antitoxin used by the Doctor is out of line at all. Recently in the City Hospital in Louisville

we had a case in which very much larger quantities were used with a recovery. The employment of the Meltzer method of sulphate of magnesium is certainly going to be of great benefit to these patients. These patients die from lack of nutrition and from spasm of the respiratory muscles. According to the use by Meltzer, these muscles are brought into relaxation by the use of sulphate of magnesium, and the counter-acting effect of chlorid of calcium solution is very effective.

I think by keeping these patients relaxed, allowing them to be fed, more recoveries will be obtained in the treatment of tetanus.

We found in this case I mentioned just now that after the injection into the spinal canal subsequent injections intravenously brought on an anaphylactic reaction similar to the one mentioned by the Doctor.

There is one point I wish to mention which is not generally known, and yet which I have thought I have seen help some cases of tetanus, and that is the use of carbolic acid in larger doses than were first advised by the Italians who brought out the method, they being the first to bring out the use of carbolic acid in the treatment of tetanus. I have given in tetanus cases as much as fifteen minims of carbolic acid, fifteen minims of tincture of Gelsemium and fifteen minims of glycerin, and there is no local reaction, and injected into the region of the lesion or subcutaneously it produces no reaction and in some instances has seemed to work very beneficially. Whether it has done so or not I am unable to say but it has seemed to work beneficially. It was proposed by a doctor who claimed to have sixteen cases recover with that method of treatment alone.

**Irvin Abell, Louisville:** It has been long the belief and the teaching that the tetanus bacillus remains fairly well localized at the point of entry into the body; as has been explained by the essayist the toxin reaches the central nervous system through the nerve paths.

I wish to report a finding of a tetanus bacillus in pure culture in the spinal fluid in a case under observation some months ago. This man had an unusually virulent infection. He was a carpenter who injured his thumb and died in less than five days from the time of the injury. During the time that he was under treatment, in withdrawing the spinal fluid for the introduction of the tetanus antitoxin or serum into the subdural space, the fluid was examined microscopically by smear and by culture, and the tetanus bacillus obtained in pure culture.

**Morris Flexner, Louisville:** Along with intraspinal and intravenous administration I think it is also a good plan to give serum intramuscularly or subcutaneously. By this addition you

get a constant, slow absorption of antibodies in the blood stream. Of course, the other two methods flood the blood stream in antibodies, but the excretion probably takes place in a short time, while the slow absorption from the intramuscular and subcutaneous introduction keeps neutralizing the toxin which is given off by the infection.

One point about anaphylaxis. Of course you do not get true anaphylaxis if you do not allow five or six days to elapse between the doses of serum. You may occasionally get a little reaction, but it is not real anaphylaxis. If you give your serum daily or every other day you will not get a reaction.

The serum sickness which follows practically all injections of quantities necessary in a case like this is very distressing and gives the patient great discomfort, but adrenalin will often help reduce this and thus make the patient much more comfortable than he would be otherwise.

**J. H. Blackburn, (Closing):** There are one or two points I would like to speak of in closing the paper. Dr. Flexner has just mentioned the fact that the antitoxin disappears quickly from the blood stream and the antibodies which may be produced also disappear rather quickly in a way, and this complete disappearance of antitoxin within six or seven days led to the instructions in the British Army for the repeating of the dose of antitoxin in seven or ten days, particularly in severe wounds. The same orders were also issued in the A. E. F.

As to the absorption, of course, it is quickest in the veins. The antitoxin that is placed in the spinal canal does not break up the binding of the toxin with the peripheral nerves and with the motor centers in the cord, but is presumed to come in contact with and take care of any excess of toxin. The intravenous administration will, of course, take care of any that is being disseminated through the blood stream. The intramuscular or the subcutaneous injection is presumed to take care of the gradual elaboration of any poison that may be developed afterwards and be poured into the blood stream, so there are points in favor of the intraspinal, the intravenous and the subcutaneous or intramuscular method of administration.

Ashhurst, in the Episcopal Hospital, Philadelphia, has shown that three to ten thousand units intravenously will accomplish as much as the administration subcutaneously of 100,000 units. He places it in this way: That in order to accomplish subcutaneously what you can by 10,000 units in the intravenous method, you give at least 100,000 units, so from the standpoint of cost of treatment, certainly it is worth while to give it intravenously.



I agree with the Doctor further that I don't think we usually get a marked anaphylaxis or anaphylactic reaction unless the patient be a child that previously has had a dose of antitoxin as a preventive measure or a curative measure in a case of diphtheria or something of that sort. Then we are rather apt to get a definite anaphylactic reaction, and in this particular case, before we resorted to the administration in the spinal canal, we made inquiry of the family and were informed that this girl had never had antitoxin in any form.

As to the Bacelli method of treatment, I think that is the one that has been used most in the mild cases. I have used that in a number of cases, I think five altogether, and all five of those recovered. They possibly would have recovered without the administration of that or anything else.

As to the frequency of tetanus, a point which I want to emphasize particularly, the day the Armistice was signed, in my unit in France we had 2540 patients about evenly distributed on the medical and surgical side. During my service I think I saw at least 2500 to 3,000 wounded men. I saw one case of tetanus in France. I got back home in February of 1920, and from that date until this I have seen seven cases of tetanus at Bowling Green and in Warren County, and three of the seven are already in Abraham's bosom. Why didn't we have them over there where we had these gunshot wounds, and why do we have them at home? Because the orders in the A. E. F. were to use tetanus antitoxin as a prophylactic measure in every case, and because we fellows in Warren County haven't yet learned to use it on suspicion.

**Radium Treatment of Skin Cancer.**—This communication from the Zurich skin clinic relates that forty-five of forty-six superficial and papillary carcinomas of the rodent ulcer type healed completely and vanished under radium exposures. The cancers were on the lids in twelve, and the healing proceeded without injury to vision or the movements of the lids. No filter was used. Radium treatment is particularly useful for senile hyperkeratosis which melts away under it, while left untreated, it breeds cancer.

**Lipovaccines.**—Gay shows that animals vaccinated with lipovaccine, whose serums show no agglutinin content, are nearly as well protected against becoming carriers as those vaccinated with saline vaccine whose serums show high agglutinin content. Even in the latter animals, the agglutinin content varies in degree inversely with the protection afforded. Therefore, the agglutinin titer is certainly not a measure of protection.

## INDIRECT ABDOMINAL PREGNANCY; LIVING CHILD DELIVERED BY CELIOTOMY, WITH REPORT OF A CASE.\*

By J. R. COWAN, Danville.

The presentation of this paper, with the report of the case, has been undertaken, because the delivery, by celiotomy, of a healthy, living child, at full term, from an ectopic gestation is sufficiently rare to justify consideration.

Ectopic pregnancy means the fertilization and lodgment of the fertilized ovum, with development of pregnancy, outside the cavity of the uterus, and includes abdominal, ovarian, tubal and interstitial varieties.

Tubal pregnancy is by far the most frequent of all varieties and its occurrence has not only been firmly established, but its pathogenesis and symptomatology are well recognized.

Abdominal pregnancy means the immediate and direct implantation and development of the fecundated ovum, in the abdominal cavity, without previous lodgment elsewhere. This is the so-called primary or direct form. The term indirect abdominal pregnancy has been applied to cases of ectopic pregnancy which have first been tubal or ovarian and later by rupture or extrusion have become abdominal. The occurrence of primary abdominal pregnancy has been the subject of much discussion and its possibility frequently denied. The earlier reports of cases contained insufficient data and were too inconclusively presented to enable readers to classify them. Old conceptions of embryological development of the ovum and its fertilization united with contemporary ideas of its implantation and the corresponding changes in the maternal organism, incident to its reception, made primary abdominal pregnancy impossible. Men of a former day taught their students, that fertilization of the human ovum took place inside the cavity of the uterus, where the decidual membrane was formed and that only under these conditions could pregnancy proceed. Tubal pregnancy, through the development of abdominal surgery and the frequent operations upon the pelvic organs came to be recognized as a proven pathological entity. The study of specimen of tubal pregnancies established the conviction that a decidual membrane, not only is not necessary for the implantation of the fertilized ovum, but also that a decidual might develop in other situations than the cavity of the uterus.

\*Read before Kentucky State Medical Association, Crab Orchard Springs, September, 1923.

Ray says "we have no evidence that decidual formation does occur prior to embedding" and calls attention to the fact that so-called decidual cells have been found in various organs of the pregnant woman, and states that he has observed them in the appendix removed from a woman who had a tubal pregnancy. The possibility then of the implantation and development of the fertilized ovum in the abdominal cavity seems clearly established.

If we are to accept the reports of numerous observers external migration of the ovum is an established fact. Williams says:

"Every one who has carefully studied the anatomic conditions in a considerable number of extra-uterine pregnancy specimens has noted the frequent occurrence of external migration of the ovum: that is finding the corpus luteum in one ovary and the pregnancy in the opposite tube. I have noted it in at least one-fourth of my cases but am unable to state whether it is peculiar to tubal pregnancy since comparatively few opportunities occur for ascertaining how frequently it occurs in normal pregnancy."

However, E. E. Montgomery, writing upon this subject, mentions the fact that normal pregnancy does occur in patients who have lost the ovary on one side of the pelvis and the tube upon the other, so that there must necessarily have been a transmigration of the ovum from the one side of the pelvis to the other.

If we accept what seems to be conclusive proof that after its implantation, the imbedding of the ovum is really in the nature of "a digging in" or that in other words it enters the uterus by a process of erosion, then we may conclude that it may in like manner imbed itself in other structures.

Obstruction of the Fallopian tube is a probable factor in pathogenesis. These obstructions may be the result of disease and occlusion or partial occlusion of the lumen, inflammatory adhesion of the fimbriated extremity or twists and kinks of the tube itself.

Granted, then, the transmigration of the ovum, and its fertilization prior to its entry into the tube, we have the conditions to make abdominal pregnancy possible. If the ovum can implant itself upon the peritoneal surface and imbed itself the progress and development of the pregnancy may continue a direct abdominal pregnancy, there is the development of the fecundated ovum in the abdominal cavity; and it may be of the so-called indirect variety, when it leaves its original implantation in the tube or ovary and con-

tinues its development in the abdomen. In the direct variety the placenta takes its attachment to the peritoneum, usually that of the pelvis, perhaps the uterus or broad ligament, but may be attached to any of the abdominal viscera. In the indirect variety the original attachment is to its first location, and after its extrusion it may continue its original attachment or become attached elsewhere.

Williams<sub>4</sub> says of abdominal pregnancy: "I, therefore, do not believe that a single case has thus far been reported which affords indisputable proof of the primary occurrence of abdominal pregnancy; but at the same time one must admit such a possibility."

Strict accuracy and the lack of complete and convincing evidence may exclude the following case from the list of true primary abdominal pregnancy.

The case I have to report occurred in the practice of my colleague, the late Dr. F. H. Montgomery.

T. R., mulatto negress, 33 years old, married, was admitted to the hospital in the early morning of June 18, 1918.

Menstruation began at the age of thirteen years, was regular, twenty-eight day type, lasting five days and was without pain. Married at nineteen years. One year later, 1905, after a normal pregnancy and labor gave birth to a healthy female baby at full term.

She has had no serious illnesses, no miscarriages and no operations. Menstruation returned about one year after confinement. She continued in good health until about five years before present illness, i. e., in 1913, when her menstruation became irregular, too frequent, occurring every two or three weeks and lasting about eight days, with rather profuse leucorrhoea between periods.

She could not give the exact date of her last menstruation but thought it was about October 1, 1917.

About November 1, 1917 she had a severe attack of abdominal pain, most intense in the lower right abdomen and lasting about an hour. She did not become faint and there was no vaginal hemorrhage, but she felt very weak and had to go to bed, and says there was great tenderness over the lower abdomen for a week afterward and that this tenderness never entirely left her. From this time on she had almost constant abdominal pain, which was distributed over the whole abdomen, but no more severe paroxysms until three days before she entered the hospital.

Enlargement of the abdomen was first noticed about the middle of January, 1918 and this enlargement increased rapidly. She in-



sists that she never felt fetal movements and did not consider herself to be pregnant. During the last month she suffered much from dyspnoea and was unable to lie down during the last two weeks. The abdominal pain and tenderness increased and for three days prior to admission was very severe, intermittent and 'like labor pains.'

Physical examination: A light mulatto negro; face marked by pigmentation of chloasma. Facies that of severe pain and acute illness. Pulse weak, 120. Temperature 97; Heart and lungs negative; Catheterized urine negative for albumen and sugar, SP. Gr. 1.020.

The abdomen was enlarged, rigid and very tender. A distinct tumor was reaching to within four inches of the xiphoid, extending laterally into both flanks was without definite outline. Distinct fetal movements could not be detected but the fetal parts could be felt but not mapped out. The fetal heart sounds seemed unusually loud—rate 150.

Vaginal examination showed a nodular mass almost the size of the clenched fist occupying the place of the cervix and very evidently a fibroid tumor of the lower segment of the uterus, and so filling the pelvic inlet that nothing else could be palpated. A diagnosis of intra-uterine pregnancy in a fibroid uterus, with possible rupture of the uterus seemed justified.

Spontaneous delivery in the presence of the mass of fibroids surrounding the cervix seemed impossible and Cesarean Section was decided upon. At the same time we had in mind the possibility of rupture of the uterus.

When the abdomen was opened a tumor mass presented, which, in its purplish red color, and general appearance suggested an ovarian cyst with twisted pedicle. This mass was adherent to the omentum and small intestine. Upon separating it at one margin a dark fluid, evidently liquor amnii stained with meconium escaped. The hand introduced into this cavity discovered a large fetus, which was quickly delivered, the cord clamped and divided. Almost immediately the baby cried and breathed well, requiring no artificial respiration. The sac was adherent to the omentum, small intestines and to the ascending and descending colon. The omental adhesions were divided between ligatures but in freeing the intestines many tabs of membrane were left rather than risk wounding the gut.

The uterus was fibroid mass about the size of a large grape-fruit and attached to its posterior surface was the placenta, which also extended to the right broad ligament. At-

tempts to separate it caused an alarming hemorrhage which, however, was controlled by tying off the broad ligament cutting away part of the wall of the uterus and suturing the cut edges. The condition of the patient demanded haste and a careful examination of the pelvic viscera was not made. However, we felt sure that although the adnexa on the right side were in a boggy mass and closely adherent to the placenta, that the tube and ovary showed no evidence of rupture. The left side was quite normal. A large cigarette drain was carried to the bottom of the pelvis and the abdomen closed.

The patient rallied quickly from the operation and was able to nurse her baby on the fifth day.

The baby was a perfectly developed female, weighing five pounds, and without deformity or abnormality. They left the hospital on the twenty-fifth day and have continued in excellent health. The child has grown and thrived and is now an unusually well developed five year old in the best of health.

I regret that circumstances did not permit more careful investigation, especially to determine the condition of the tubes and ovaries. The left tube and ovary were perfectly normal and although the right tube was part of boggy mass, near the attachment of the placenta we were unable to find any evidence of rupture or tubal pregnancy. The history would indicate by the paroxysm of pain about the fifth week a rupture of tubal pregnancy. However, inaccuracies in the history are more than probable, for the patient is a negro woman of perhaps less than the average mentality of her class and her observations and statements must be taken guardedly. She insists that at no time during the interval from her last menstruation to her operation did she have any vaginal discharge of blood.

Bethel Solomons says the more characteristic symptoms of abdominal pregnancy are—

1. The extreme sensitiveness.
2. There are no intermittent contractions.
3. The irregularity of the outline.
4. The child is directly under the skin.
5. The heart sounds are directly under the ear.
6. The fact that retro-version is a common accompaniment.

In our case there were certainly:—sensitiveness; absence of intermittent contractions; irregular outline, but the child was not directly under the skin, although the fetal parts could be palpated, but less distinctly than in full term intra-uterine pregnancy. We noted that the heart sounds were loud but degrees of difference in the distinctness of the sounds

are difficult of estimation. Retroversion was not present.

I have been able to find reports of sixteen cases in which the findings were given in sufficient detail to make a basis for a study of the following symptoms which have seemed to me of value.

#### 1. Pain.

Pain was present in twelve cases, absent in one, and not mentioned in three.

Paroxysm of agonizing pain with fainting, nausea or sweating were present in eight cases, absent in five, and not mentioned in three.

The date of the paroxysms was from four to eight weeks after the cessation of the menses.

Persistent pain lasting through the whole period of pregnancy was present in four cases, absent in one, not mentioned in eleven.

#### 2. Vaginal hemorrhage.

Present in ten cases, absent in four, not mentioned in two.

#### 3. Decidua.

Discharge of a definite decidual membrane was mentioned as present in seven cases.

#### 4. Sterility.

A period of sterility of from four to fifteen years was present in seven cases.

5. Abnormal location of position of the fetus was described in four cases.

#### Differential diagnosis:

The conditions most likely to present confusing similarities are abdominal tumors, especially those of the uterus and intra-uterine pregnancy.

Abdominal tumors are to be differentiated by their characteristic signs and by the evidences of pregnancy.

Under certain more or less abnormal conditions the differentiation from intra-uterine pregnancy may be difficult. Pain, vaginal hemorrhage, a period of sterility, abnormal location of the child, the six points enumerated by Solomon and previously quoted, and if during spurious labor the lack of intermittent contractions of the uterus are all symptoms of more or less value but only as indications. The only positive proof is the detection of the fetus in the abdomen and the demonstration of the empty uterus. The uterus can usually be distinguished from the tumor, by bimanual examination, and most satisfactorily done with full anesthesia. Measurement of size of the uterine cavity by the introduction of a sound has been frequently done.

The treatment of the condition resolves itself into selection of the time and method of operating. In selecting the time we are concerned in the prognosis of both mother and child. The nearer full term the better the

prognosis for the child but operation done earlier offers a better prognosis for the mother as there is less danger from hemorrhage from separation of the placenta at the early period than at full term. Most authors agree upon the thirty-eighth week as the time offering the best prognosis for both patients. Delayed beyond full term subjects both to the dangers of spurious labor, insures fetal death, but renders separation of the placenta much safer.

The ideal method of operation is the complete removal of sac, placenta and fetus intact, just as in removing an ovarian cyst. In the majority of cases adhesions of the sac or placenta to important viscera make this impossible. It is best to separate adhesions between ligatures and by careful dissection remembering that separation of the placenta may start a hemorrhage, which can be fatal in a few minutes. When it is impossible to remove sac and placenta, the procedure of marsupialization, or suturing the sac to the abdominal wall and applying a tamponade, has sometimes been successful.

Cases have been reported where the absence of a sac makes the last procedure impossible. They have been treated by either packing against the placental site or in the absence of hemorrhage leaving the placenta and closing the abdomen without drainage. The clean removal of the placenta and careful surgical control of hemorrhage greatly enhances the prognosis for the mother.

Marsupialization or packing, or leaving the placenta and membranes in a closed or drained abdomen increases the mortality about fifty per cent.

#### REFERENCES.

1. Ray, Henry M.—Primary Ovarian and Primary Abdominal Pregnancy S. G. & O. Vol. 32, p. 437.
2. Williams, J. Whitridge—Gynecology & Abdom. Surg., Kelly & Noble, Vol. II, page 135.
3. Montgomery, E. E.—Keen's Surgery, Vol. V., p. 56.
4. Williams, J. Whitridge—Gynecology & Abdom. Surg., Kelly & Noble, Vol. II, p. 159.
5. Solomons Bethel, Abdominal Pregnancy—S. G. & O., Vol. 23, p. 338.
6. Case reports as follows:  
Brugnatelli, E.—Primary Full-Term Abdominal Pregnancy Zentralbl. f. Gynak., Leipzig, 1922, xlvii.  
Hayd, H. E. & Potter, I. W.—Symptoms and Signs of Extra-Uterine Pregnancy & c. A. J. Gyn. & Obst., St. Louis, 1923, V., 601-620.  
Dornan, F. A.—Laparotomy for Full-Term Ectopic Gestation, Am. J. Obst., N. Y., 1912 lxxvii, 134-136.  
Ibid.—Two cases of Abdominal Pregnancy. Am. J. Obst., N. Y. lxxix N. Y., 1919.  
Fairbairn—Advanced Extra-Uterine Gestation—Proc. Roy. Soc. Med. Lond., 1918-18, Sect. O. & G., 183-4.  
Hicks, H. T.—A Case of Full-Term Ectopic Gestation—Br. M. J. Lond., 1922, i., 141.  
Hood, N. L.—A Case of Full-Term Living Child etc, Lancet, 1913, i., 1662.  
Jewett, W. A.—Management of Placenta in Abdom. Preg., A. J. O. & G., St. Louis, 1923, v., 176-181.  
Jones, J. Bolling—Abdominal Pregnancy—Va., M. Month, 1923, li, 147.  
Newell, Q. U.—Full-Term Extra-Uterine Pregnancy, J. Missouri M. Assn., St. Louis, 1920, xlvii, 357-361.  
Noble, Thos. B.—A Case of Abdominal Pregnancy at Term, Tr. Am. Ass. Obst. & Gynec., 1918, N. York, 1919, xxxi, 57-63.



## SUGGESTIONS AS TO THE ETIOLOGY AND TREATMENT OF DISEASES OF THE NASAL ACCESSORY SINUSES.\*

By J. A. STUCKY, Lexington.

The object of this paper is to emphasize the nonsurgical treatment of inflammatory or suppurative conditions of the nasal accessory sinuses, whether they be acute or subacute. The contention made by me in the last fifteen or twenty years before this and other medical societies that many painful and diseased conditions of this region are local manifestations of systemic conditions and more satisfactorily amenable to systemic treatment alone or combined with mild and non-irritating local treatment, has been verified in numbers of cases in private practice and Public Health Clinics.

In the last ten years I have rarely had to surgically drain an empyema, unless the lining membrane of the cavity involved, had become to such an extent pathological that it was pyogenic or gave evidence of undergoing polypoid degeneration.

As oto-rhinologists we must keep constantly in mind, when treating diseases of the nasal accessory sinuses that our treatment must (1) relieve pain, (2) restore ventilation, (3) maintain drainage, in order to restore and preserve their function.

Localized characteristic pain in the ethmoid, frontal, maxillary or mastoid region—with a roentgenogram showing a deep shadow confirmed by trans-illumination—the anterior and posterior rhinoscopic examination revealing muco-purulent or purulent discharge in the middle meatus, these positive clinical indications do not in the majority of cases call for either local or general anaesthesia, for surgical intervention either by puncture, irrigation and aspiration, or the well known and accepted more radical procedures. So frequently the symptomatology and clinical findings differ so widely that a diagnosis can only be made by exclusion.

Assuming that we have completed our examination and made a diagnosis—the first thing expected of us is to relieve the irritating and depressing discomfort, if not real pain in the naso-frontal, maxillary or occipital region. For many years I am quite sure I did not appreciate the value of pain as a clinical symptom—for this reason gave little attention to the analysis of painful sen-

sations, its areas of distribution and associated manifestations, its time of appearance—whether associated with a nasal or post-nasal discharge, if so whether this discharge was a watery exudate (weeping nose) or tenacious mucus, muco-purulent or purulent.

Intense or persistent pain (nagging pain) leads to serious functional disturbance of the entire body, for this reason its cause should be speedily and effectually removed by remedies and methods that accomplish the desired end, with a minimum amount of irritation and interference with function.

In most of these cases the pain is due to pressure. This pressure is most frequently of a negative character in that the cause is without the sinus or cells, which results in rarification of air and absorption of contents of the cavity. This condition in turn causes swelling and hyperemia of the lining to the extent of closing normal opening into the nose. If this condition is not speedily relieved the pent-up, retained secretion will become purulent and pain will be caused by accumulation and pressure within the cavity, which will sooner or later impair or destroy the integrity of the muco-periosteal lining and function of the sinus, if not relieved surgically.

Whatever may be the etiology of diseased nasal accessory sinuses—unless it be from an infected tooth—the first clinical symptoms to which our attention is called is, "first felt as if taking cold" and our examination reveals inflamed turbinates usually somewhat swollen. There may be little or no secretion but the persisting nagging pain. The pharyngeal and faucial examination may show little or no change except the lateral lingual lymphatics are swollen. The post-rhinoscopic examination shows oedema, bluish grey or red, of the middle and inferior turbinates.

Trans-illumination usually shows shadow in most painful region. This is not always confirmed by the roentgenogram except when the case is of long standing.

The patient looks, feels and is sick—not septic but toxic—and should go to bed for at least twenty-four or forty-eight hours or longer. This infection causing these symptoms localizing in the area of one or more nasal accumulation products of metabolism—sal sinus producing the lymphatic changes toxemias, are persistent day and night and position of the head exerts little or no influence on the pain, though bending the head downward or jarring the body momentarily intensifies the pain.

The relation between hypertension and constipation with or without other symptoms of intestinal toxemia, as indicanuria or acetoneuria, as a causative connection immedi-

\*Read before Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association, Crab Orchard Springs, September, 1923.

ately suggests itself and free purgation is the sovereign remedy. Explanation of this is theoretical—toxins or toxemia is not satisfactory and not of itself sufficient, in view of the suddenness with which the pain and other symptoms cease on thoro evacuation of the bowels and hyperalkalizing the secretions. Mechanical factors are mention as more significant. That intestinal stasis exists, I do not doubt, and the role played by intestinal peristalsis as an accessory to the portal circulation might be considered as well as the interference in the circulation in the region of the superior vena cava that results through constipation and gas accumulation in the abdomen, owing to the pushing up of the diaphragm.

In consideration of this subject it is well to refresh our knowledge of the nerve trunks which pass out at the base of the skull—with the accessory sinuses of the nose, the latter extending under the anterior and middle fossæ of the skull, often with only an eggshell thickness of bone separating them. This is true of the optic canal and inner walls of the orbit. In the post-nasal region, we have the optic, oculomotor, the trochlear, the abducens, the Vidian, the ophthalmic and maxillary division of the fifth. All these are in close association with the post-ethmoid-sphenoid sinuses. Meekels ganglia is in the upper portion of the sphenomaxillary fossa in close proximity to the sphenopalatine foramen. All these may be, and frequently are involved through toxemia, sepsis, positive or negative pressure. Frequent irritation or inflammation of the soft and hard tissues by the secretion passing over them during attacks of coryza or rhinitis, with or without evidence of sepsis or periostitis causes thickening of these tissues, often resulting in what is called hyperplasia. It is said that no germ has ever been demonstrated in hyperplasia of these tissues.

These headaches and nagging discomfort producing so much physical and pschical disturbance may be caused by an inflammatory process extending through the sinus walls by pressure, or the toxins permeating the thin walls of the sinus irritating the adjacent nerve trunk. Thickening or hyperplastic changes may take place around the openings of the sinuses and completely close them, or at the various openings of the skull and cause pressure of the nerve trunk passing through them. With the Vidian nerve are fibers of the sympathetic which pass to the various spinal ganglia as far as the first dorsal. Vaso-motor fibers have been demonstrated to accompany the sympathetic nerve. The last cervical sympathetic ganglion sends fibers to the lungs and the first sympathetic ganglion sends fibers

to the heart. This may explain why in some attacks of pain sinusitis with coryza we have a pseudo angina pectoris, asthma, harsh dry cough, persistent in character, dilatation of the pupils, and herpes about the lips and nares. These latter symptoms are more frequently associated with sphenoiditis than any others. Rarely have I been able to learn the specific infection of any of the accessory sinuses.

Acidosis and indicanuria are the causative toxins most frequently found where systemic conditions are the causative factor, and eradication of these gives most prompt and effectual relief. Associated with these in many cases is found a lymphoid insufficiency which is relieved by calcium iodide. Most satisfactory results have been obtained by (1) reducing the concentration of toxins in the blood by elimination, (2) stimulate oxidation by regulating the diet and habits aided by administration of pluro-endocrines (thyroid, adrenal, pituitary and gonads) in small doses, (3) overcome acidosis by hyperalkalinization of the secretions, (4) many cases, especially the subacute class, require remineralization by administration of Glycero-Phosphate, Calcium. In a word permanent relief must come from within and not from without the body.

In my public health clinic and in the majority of my private cases I first endeavor to relieve the stuffy condition of the nose, not with adrenalin or cocain, but simply by irrigation post-nasally with a solution consisting of bicarbonate of soda 55 grains, chloride of sodium 55 grains, sugar of milk 3 drachms and water one pint. If an ounce or two of that is allowed to run easily through the nose the middle and inferior meatus is emptied and the openings of the sinuses are freed the patient expresses himself as relieved in two or three minutes. This must be done without irritation.

That is all the local treatment used and that is done two or three times a day.

I start the average patient with a brisk cathartic, either one or two compound cathartic pills or one large dose of calomel followed by equal parts of sugar or milk, bicarbonate of soda and sulphate of magnesia, teaspoonful doses of this in at least four ounces of water every three hours until three or four doses are taken. After that I advise its use once a day, preferably at night, for several weeks. The majority of the acute cases are relieved without any further systemic treatment. Occasionally I have to resort to the use of suction. In a few cases I have to irritate, but I rarely ever puncture the sinus, or resort to giving relief



by surgical procedure. In many of these cases we have to regulate living habits, especially as to diet, use of coffee or tea, and especially animal proteins. If we resort to washing them out and using coeain and adrenalin, I am quite sure that we often produce or hasten a hyperplasia around the region of the hiatus semilunaris or in posterior ethmoid region and if we puncture through the inferior meatus then we have the result of a traumatism to contend with.

As academic and as simple as this procedure is I have watched it very closely for the last three years and the results have been so gratifying that I am giving it to you now somewhat in detail.

In the public health clinics where we have the maids and cooks from the best families who live on highly seasoned food coming in with their boggy, soggy noses and headaches, with increased tension in the eye, the symptoms of the first stage of glaucoma, the same treatment usually give prompt relief.

## CURING FROM YON TO HITHER

By ELIZABETH COLE, New York.

Some persons never seem to go hither and yon in the well-regulated manner. They go through life from yon to hither, wondering why others about them are progressing happily and with more successful results. Ignorance sometimes holds them back, their stubbornness is frequently the cause, and occasionally it is circumstances. Anyway they are the ones who go around in circles instead of "following through".

In business, people have to "follow through." Athletes also must, and in social life one certainly cannot go from yon to hither with friendships.

One business of life that everybody has to meet is the business of health, for only the healthy man can feel he is truly getting the most out of his life. And when one has lost health he most decidedly cannot go around in circles to get it back.

Curing for tuberculosis oftentimes must necessarily be a long hard pull. An active person who has been told by his physician that he has this disease and should rest, flat on his back, will naturally feel panic stricken at first. If the patient is the mother of a family after his return, he may chafe under the countless tasks in her household during her inactivity. If the patient is a father he will not be able to see *how* his wife and the children are to be fed and keep the roof over their heads. Even if, through

his local tuberculosis association it has been made possible for him to go to a nearby sanatorium for treatment and instruction on how to care for himself and protect his family after his return, he may chafe under the rules and wish to hurry up the long tedious period of curing. He may not realize his comparative good fortune and, like many who have had no help, will seize eagerly at almost any straw of hope. These straws of hope for tuberculous persons make problems that in the end may mean failure to be cured or at best long-drawn-out set-backs.

There are two straws that often lead tuberculosis patients a merry chase from yon to hither. The first, the most serious, is the alluring fake tuberculosis cure. Of these there are many on the market. Glowing testimonials appear in advertisements for these. They may state that so and so was benefitted at once by the fumes from a marvelous little stove that will be rented for so much a month,—or that "after consuming the contents of one bottle my husband was able to go back to work". Although the testimonial writers may long since have been in their graves, such enthusiastic endorsements lead to the purchase of a bottled liquid which has no more power to cure than tomato ketchup. "Electronic reactions" often beguile with their temporary stimulation. Secret recipes and offices for treatment where fake "doctors" hold sway have brought millions of dollars to the pocketbooks of quacks and emptied the already too-slim purses of tuberculosis victims.

Another deceptive quick route to cure which has so often proved to be but a flimsy straw of hope has been the climate lure. High altitudes in some cases are better for helping along the prescribed treatment but other elements in the real cure are far more important and only the consulted physician is able to decide what is best for the individual case. Yet the old idea that one must go West persists and we find countless climate chasers in some of the western states. These have become hopeless problems. With money all gone, families deserted, the poor victims are known as "indigent migratory consumptives." They must be supported, hence they have become a burden to the state. In the beginning of their sickness, had they remained at home, carried on a strict regimen of rest, proper diet and much fresh air they might have become well and helpful citizens. As it is many of these who would never have considered begging for help in the East have gone to the West and have become paupers. A situation thereby has been created which is a most serious economic problem.

Within the past twenty years, since the organized tuberculosis campaign has been carried on by the National Tuberculosis Association and affiliated agencies, tuberculosis problems have been more and more systematically and intelligently coped with. Theirs is an educational campaign. Through education, fake cures are slowly but surely losing their insidious popularity and climate chasers are not found in the West in such great numbers. Yet in a recent report on the Indigent Migratory Situation in certain cities of the southwest, the National Tuberculosis Association points out that in six cities studied (Colorado Springs, Denver, El Paso, Phoenix, Los Angeles and San Antonio) 63 per cent of all the tuberculous had resided there less than two years at the time when they applied to an agency for help. Municipal agencies in those cities cared for a total of 7,319 tuberculous individuals in the course of a year so that it was concluded there was an average of one indigent or pauper tuberculous person to every 155 of the entire population in those six cities. Investigations such as this when exposed will eventually help in meeting the tuberculosis cure-chasing problem.

By constantly emphasizing the need for (1) consulting an expert physician and (2) following strictly his advice it may be possible to overcome the yon to hither method of curing in tuberculosis. Free clinics where physicians may be consulted and tuberculosis sanatoria where proper treatment is given at little cost are two important media in the campaign that seeks to stamp out tuberculosis. They are made possible by Christmas seals. Many more clinics, tuberculosis specialists and sanatoria are needed. Christmas seals purchased in December will help many patients to follow through in curing for tuberculosis.

**Experimental Measles in Animals.**—Blood from six patients with measles was inoculated by Nevin and Bittman into rabbits. The animals gave evidence of infection. Passage from one human case of measles was carried on through five rabbits, and a monkey inoculated with the blood of the fifth rabbit gave typical symptoms of measles. A monkey inoculated with pooled blood from two human cases of measles taken on the third day after the onset of the disease gave the characteristic symptoms of measles. Blood from cases other than measles when inoculated into rabbits failed to give evidence of infection.

## THE USE OF THE OPHTHALMOMETER.\*

By B. C. ROSE, Bryantsville.

The ophthalmometer measures only anterior corneal curvatures and astigmatic conditions without giving us further information concerning the posterior surface of the cornea or the regular or irregular surface conditions of the lens. The subjective astigmatic findings must be had by lenses inserted somewhere near the region of the anterior focus of the eye.

To emphasize the importance and value of the ophthalmometer, it does measure accurately the curvatures in the various meridians of the anterior corneal portion of the eyeball. It accurately shows irregularities of the cornea, which cause irregular astigmatism. But the phase of data must rest upon whether or not the eye has simple hyperopic astigmatism, simple myopic astigmatism or compound or mixed astigmatism. Such information must come from retinoscopic and subjective tests.

The Ophthalmometer—Von Helmholtz devised the first ophthalmometer in the year 1854 and which was improved by Javal and Schiotz later. This later improvement brings the instrument up to a semblance of the form we have today. Some inventors claim to have inventions in connection with the ophthalmometer that will measure lenticular conditions but, to my knowledge, none have been perfected to justify their general use in refraction. If the prisms in the telescope of the ophthalmometer were made movable, in order that they could be moved to and from the eye, then theoretically, it might be possible that it would enable us to examine the cornea and the anterior and posterior surfaces of the lens. Special mires would be necessary in order to give sufficient light and clearness of the images.

The essential parts of the ophthalmometer are: the telescope, which carries the objective and the eye lens; a double refracting prism; and a set of mires. A worm device is used to move the mires along in an arc. The mires are stationary in some instruments but the positions of the reflected images of the mires, as observed by the surgeon, are varied by changes in the position of the prisms. A rack and pinion device carry the prisms back and forth.

The birefracting prism is made of quartz cut so as to give a double image. The prism, as it is spoken of, is really two prisms with apices in opposite directions, in order that the deviation will take place from each side.

\*Read before the Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association, Crab Orchard.



The prisms are mounted in such manner that their plane of doubling is in exact line with the plane of the graduated arc. The telescope should have combinations of achromatic lenses.

The reflected images of the mires as seen in the field of vision are often associated with colored fringes and indistinct edges which make it difficult to determine the exact coincidence of the mires in corneal examinations. These color fringes are in all probability due to diffraction effects originating from the texture in the cornea causing the general character of the light coming from the cornea as seen in the telescope of the instrument to be of a bluish or reddish color; again, another source might be due to the dispersive effects of the prism system producing two images; and again, to incomplete achromatism of the lens system in the telescope.

#### How to Manipulate the Ophthalmometer.

First, the telescope should be adjusted by looking through it and turning the eye piece until the crosshairs are focused. Both patient and surgeon should be comfortably seated and in no way cramped, and the instrument placed upon an adjustable table or stand in order that it will be well stationed. The patient's forehead should be pressed well against the top of the head-piece, and instructed to keep the head immobile when in readiness for observation. The patient must keep the eye directed at the end of the telescope. The line of the sight of the eye and telescope may be approximated by watching the relative heights of the eye and telescopic tube through the slits in the mental screen.

The images of the mires reflected from the cornea should be focused as clear and sharp in outline as possible by the movement of the telescope only.

The patient's head should be erect placing the eyes in a horizontal position, if in any other position, the apparent location of the principal meridians will not be true.

The bi-refrangent prisms double the corneal reflections of the two mires showing four images in the field but the two inner ones only are regarded. These images are made to appear upon the point of intersection of the crosshairs in the eye piece by operating the telescope up and down and by swinging it upon its vertical axis. When this adjustment is made the telescope should be clamped for further observations.

If there is corneal astigmatism there is a variation of the corneal curvature, then as the arc is rotated into various meridians the distance between the images will vary. If the cornea is spherical, the central images

will remain in contact as the arc which carries the mires.

Irregular Astigmatism was corrected with great difficulty before the days of the modern ophthalmometer which has relieved us of a burden of hard work in dealing with irregular curvatures of the cornea. In this condition the images of the mires are of value in detecting irregular astigmatism by showing distortion of the corneal image and the irregularity of the outlines of the mires. The stenopaic slit should be brought into use following the ophthalmometric findings as it may be found to render great service in some cases.

Advantages of the Ophthalmometer: Is for the purpose of determining the corneal curvature; whether the radius of curvature is shorter or longer than the average, even though no corneal astigmatism is found; whether the cornea has a toroidal curve; whether irregular astigmatism or keratoconus is present and to what extent; whether the corneas of the two eyes are similar or dissimilar and whether corneal astigmatism. The instrument will often give the exact axis of corneal astigmatism, and shortens the examination.

---

**Carcinoma of Kidney.**—The four cases of carcinoma of the kidney reported by Kretschmer illustrate four different pathologic types. Pre-operative diagnosis of nephrolithiasis was made the presence of tumor not being suspected. These four cases illustrate several points in diagnosis: the ease and accuracy with which tumors of the kidneys may be recognized by the use of pyelography, even though the tumors are small; the ease with which tumors are overlooked, their existence not being suspected because of the presence of other very obvious lesions, such as stone; the value of complete, careful and accurate study in all cases of renal hematuria, and the varying pathologic types of renal carcinoma that may be met in a small series of cases.

---

**Gentian Violet in Phlebitis.**—In five cases of phlebitis Shallenberger has obtained very good results from the intravenous injection of a 0.5 per cent aqueous solution of gentian violet. The maximum dose is 5 mg. per kilogram of body weight. No bad symptoms or reactions have been noted. Some of the patients have manifested nervousness and have complained of weakness. Sweating was frequently observed. A bluish tinge to the skin simulating cyanosis usually appears, but passes off in a short time. The treatment can be repeated several times at two or three day intervals.

RESEARCH AND ITS RELATION TO  
MEDICINE.\*

By D. J. HEALY, Lexington

It has been suggested that I reintroduce the time-honored custom of an inaugural address and to-night I wish to speak on Research and its relation to that world-wide territory which is extra-mural to our great medical centers. Research demands study and incessant effort to understand; character is the chief requirement; and it must be reinforced by enthusiasm and imagination; opportunity is necessary, yet it may be found in one locality as frequently as in another. That the opportunities and atmosphere of a great medical center are not necessary for successful research is demonstrated by the work of three men of whom I will speak and the first of these is Benjamin Winslow Dudley.

As an undergraduate of McGill I had heard much of Dr. Dudley and his work and of his influence upon the Hippocratic oath, which has been called one of the most memorable of human documents. During the medieval ages this oath gained a prominence thru the influence of the famous school of medicine at Salerno. It gained additional luster thru the work and teachings of Boerhaave at Leyden. Its traditions and influence were carried from Leyden to Edinburgh by Piteairn and Rutherford early in the eighteenth century. The Edinburgh school soon outstripped all its comperes and early in the nineteenth century Holmes, Robertson, Stevenson, and Caldwell, graduates of Edinburgh, began medical instruction in Montreal and introduced the Hippocratic method and influence into the new world.

The oath taken by the graduates of these schools during many centuries prohibited lithotomy which had fallen into the hands of charlatans and was very fatal. Dr. Dudley performed lithotomy 225 times without losing a patient in his first 100 operations, the mortality for all his lithotomies being about 2 per cent. This work was done here in Lexington and as a result the prohibition of lithotomy was stricken from the Hippocratic oath. Dr. Dudley died in January, 1870, and the Lexington Observer and Reporter of that date states: "Dr. Dudley and the history and the fame of Lexington go together for nearly half a century his fame has been circling around the world—after a long life of usefulness and triumph an old medical hero sleeps well."

The second man of whom I wish to speak is Dr. Joseph Hoeing Kastle. Many of you remember him very well. Slight of stature, physically frail, but a flame of enthusiasm, and a tireless worker. Modest in all things he found sincere pleasure in the name "Little Joe" which the undergraduates coined for him. Dr. Kastle's real work consisted in compelling the scientific world, which like all other fields of human endeavor is thoroughly preoccupied, to recognize the fundamental importance of enzymic action in vital phenomena. In a series of brilliant researches he demonstrated that lipase is present in a number of organs and tissues of animals and plants; that it was almost completely removed from its solutions by repeated filtration; that it was much more stable than had been hitherto supposed; that its maximum activity occurred at 40 degrees Centigrade and that its action was reversible, and thus profoundly influenced the absorption, storing, and translocation of fatty reserve material in the animal and plant organisms. He demonstrated the value of phenolphthalein for detecting the presence of certain oxidases in animal and plant tissues. He demonstrated that oxygen is absolutely essential to the guaiacum-bluening ferment of the potato, and that this ferment is in all probability not a true soluble ferment, but an organic peroxide, and that the process of rendering oxygen active by the living cell is essentially the same as that accomplished by phosphorus, benzaldehyde, and other oxygen carriers. Loew reached the conclusion that the power of various animal and plant extracts to decompose hydrogen peroxide is due to a distinct enzyme which he named catalase. Kastle demonstrated that catalase is a substance or mixture of substances having a tendency to combine with hydrogen peroxide to form a very unstable holoxide (peroxide) derivative which immediately decomposes with the evolution of molecular oxygen, and that catalase may under certain conditions combine with atmospheric oxygen to form an oxidase. Dr. Kastle wrote the world Enzyme in capital letters into the scientific literature thus arresting the attention of all scientists. This work was done in the old chemistry department of the University with which many of you are familiar. In 1904 Dr. Kastle, who had never visited Europe, wrote to Oswald asking his opinion regarding such a visit. Oswald answered that by all means he should come, that they would enjoy the pleasure of meeting him, but there was nothing that they could teach him. In 1905 the Public Health and Marine-Hospital Service established a Department of Chemistry and Surgeon Gen-

\*Read before the Fayette County Medical Society.



eral Wyman requested Dr. Remsen, Dr. Loeb, and Dr. Wiley to suggest a chemist for the position. Without consultation they all suggested Dr. Kastle who was thereupon appointed. After Dr. Kastle's death the Carnegie Foundation granted Mrs. Kastle an annuity of \$1200. in recognition of his service to American Science.

The third man of whom I wish to speak is Dr. F. G. Banting. It is of peculiar interest to us that Dr. Banting is a young man, graduating in 1917 with the degree Bachelor of Medicine, and that he entered the practice a few years later in London, Ontario, a town of about the size of Lexington. Having more time than money at his disposal he obtained a position as demonstrator in the medical school at London and devoted much of his time to reading medical literature, especially the literature dealing with diabetes. In 1890 Langerhans demonstrated small groups of epithelium-like cells without ducts scattered among the glandular tissue of the pancreas. In cases of diabetes these small groups of cells, the islands of Langerhans, sometimes degenerated. In 1898 Von Mering and Minkowski demonstrated that extirpation of the pancreas in dogs would cause diabetes. It was further demonstrated that ligation of the pancreatic duct would cause degeneration of the pancreas but not of the islands of Langerhans, and that the metabolism of sugar was not interfered with. Evidently the islands of Langerhans produce an internal secretion yet all attempts to extract the active principle failed, probably because the pancreatic secretion destroyed that from the islands of Langerhans. Dr. Banting began his study of the literature dealing with diabetes in the fall of 1920, thirty years after Langerhans' work. The fact that ligation of the pancreatic duct caused degeneration of the pancreas but not of the islands of Langerhans impressed him very deeply and for six months he repeated this to himself; He then hurried to Prof. McLeod at the University of Toronto to explain his bright idea which was to cause degeneration of the pancreas by ligating the duct and, after degeneration, to extract the islands of Langerhans. As you all know his idea was successful and the results are insulin, the Nobel prize for 1923, an annuity of \$7,500.00 from the Canadian Government, and a \$6,000.00 professorship at the University of Toronto.

It is true that the majority of physicians begin professional life with a vision such as Dr. Banting's but as the years slip by their visions gradually fade. Mental growth,

like physical growth, requires time, and in addition it requires patient effort and contact with the thought of others. In former years the active practitioner maintained a close contact with scientific faculties, a relationship which was very beneficial to both. Dr. Dudley and Dr. Kastle did their work in Lexington, and Dr. Banting could have done his work here. They realized that contact with the scientific faculty was necessary for their success.

At the present time there are many interesting problems upon which the men at the University are working and it is regrettable that the members of the Medical Society have no ready method of keeping in touch with this work. I shall speak of two of these problems, not because they are the most important or the most interesting but, because they are problems of metabolism and as such will interest you.

Dr. Buckner is working on the metabolism of calcium in the chicken. It has been demonstrated that during the period of incubation the growing chick obtains the calcium necessary for bone production from the eggshell using about 80 per cent of this calcium, although at no period during incubation is there more than a trace of calcium in solution in the egg. Dr. Buckner has demonstrated that the chicken can use the calcium of calcium carbonate in the production of eggshell and of bone, but that the calcium of tricalcium phosphate can be used for bone production, yet not for eggshell production. He has also demonstrated that the protein of buttermilk has a greater biologic value than the protein of tankage. Chickens fed buttermilk and calcium carbonate produce a greater number of larger eggs than do chickens fed on tankage and calcium carbonate. By causing calcium starvation Dr. Buckner has reduced the calcium content of the eggshell thus causing a calcium deficiency in the growing chick.

Dr. McHargue is working on the metabolism of manganese in plants. By careful preparation of his chemicals he obtained a manganese free nutrient solution in which he grew seedlings and demonstrated that after the seedling had exhausted the manganese stored in the seed there was no further chlorophyll formation, no further carbon assimilation, and no further growth. He has also demonstrated that those tissues and organs of plants and animals which are rich in vitamins are also rich in manganese.

First hand knowledge of such scientific work would be of real value to us all and I therefore suggest that the Society devise

some means by which it may establish close contact with those scientific workers at the University whose work is more or less related to many of the problems of the busy practitioner.

# REPORT OF A CASE OF TUBERCULOUS MASTOIDITIS TREATED WITH THE ACTINIC RAYS.\*

By GEORGE F. DOYLE, Winchester.

In presenting this report, I shall not attempt to enter into a discussion of the pathology of tuberculous mastoiditis, inasmuch as the process involved in tuberculosis of the bones is well known, and while tuberculosis of the temporal bone is comparatively rare, the process is practically the same as in any other bony structure, with the exception of the modifications due to the location of the disease in this particular region and the additional danger from intracranial complications. I desire especially to call attention to the remarkable and gratifying results obtained in this case by the use of the actinic rays.

While the old adage, "There is nothing new under the sun," is proverbial, it may also be said there is nothing new in the sun, but only in the method of employing its rays. Sun baths have been used from the very beginning of time, and the ancient Egyptians were accustomed to treat various diseases by exposing their patients to the rays of the sun. It is only in recent times, however, that an endeavor has been made to obtain pure actinic ray baths. Rollier, of Switzerland, in 1903, established sanatoria at an altitude of four thousand feet and there exposed his patients to the rays of the sun with most gratifying results.

In 1901, Finsen demonstrated the value of actinic rays scientifically. He states that the blood in the capillaries absorbs most of the rays, thereby thoroughly saturating the superficial tissues. Jansen has demonstrated that actinic rays may kill bacteria at a depth of two inches in soft tissues directly, but with Plank's proof that bone structures, as well as soft tissues can be penetrated, it is only reasonable to believe that bacteria may also be destroyed at a greater depth.

Pacini reports a very interesting experiment with the water-cooled lamp, which is as follows: To tumblers of sterile water organisms, grown from clinically obtained materials, are added, the tumblers being exposed

to the rays of the lamp at a distance of eight inches, with the following results:

Number of seconds required to kill.

Diplococci	
Gonococci .....	6
Meningococci .....	6
Staphylococci	
Pyogenes albus .....	10
Pyogenes aureus .....	12
Pneumococci	
Group I.....	25
Group II.....	20
Group III.....	25
Group IV.....	15
Streptococci	
Viridans .....	14
Hemolyticus .....	18
Mucosus .....	25
Bacillus	
Influenza .....	18
Diphtheria .....	10
Tubercle .....	12
Lepre.....	15
Colon.....	18
Typhoid.....	18
Dysentery types.....	20

An interesting fact which Pacini also demonstrated with water which had been exposed to the rays of the lamp was as follows: If, to a specimen of water which has seen exposed or sterilized by means of ultraviolet rays, fresh live bacteria were added, within an hour's time 90 per cent of the organisms are killed. This action is called "residual effect." In living tissues with organisms imbedded deeply, the rays do not destroy bacteria directly, as in the experiment with the tumblers of water, but indirectly, as was the case when fresh live bacteria were added to the water which had previously been exposed to the rays. However, when organisms are superficial in the tissues they are destroyed directly.

Being familiar with the remarkable results being obtained in various diseases by means of the actinic rays, particularly in tuberculous conditions, I decided to try them in this case. The method of application will be described in the report of the case, which follows.

M. A., female, white, aged 27 years, by occupation a housewife, consulted me on April 4, 1923, giving the following history:

Family history: Father died of pulmonary tuberculosis, at the age of 27 years. Mother living and well, aged 55 years. One brother and two sisters living and well. One brother died in infancy, cause unknown.

Past History: Had measles, mumps and whooping cough during childhood. At the

\*Read before Eye, Ear, Nose and Throat Section of the Kentucky State Medical Association, Crab Orchard Springs, September, 1923.



age of 10 years had a suppurating cervical adenitis on left side.

Complaint: During the first week of February, 1923, had an attack of mild influenza, and on the second day of the disease developed pain in the left ear, which continued for forty-eight hours, at the end of which time the membrana tympani ruptured spontaneously and there was profuse discharge from the ear, after which the pain was relieved. The discharge was at first a clear fluid, but in a day or two became purulent. The ear has continued to discharge more or less profusely until the present time. One week following rupture of the drum membrane, she developed pain over the left frontal region and also in the left eye; this continued for about one week, when pain appeared over the left mastoid process, extending back over the occiput to the midline. After the mastoid pain began, she had no further frontal pain, but still continued to have pain in the left eye. The mastoid pain has continued until the present time, being worse at night and preventing sleep.

Examination: Patient is an adult female, fairly well nourished, but very anemic and having the appearance of one suffering either from extreme sepsis or tuberculous cachexia. Examination of the heart and lungs reveals nothing abnormal. The eyes are normal. Nose and throat show a decided pallor of the mucous membranes, with slight amount of catarrhal discharge in the nasal and post-nasal cavities. Transillumination of the nasal accessory sinuses shows them all clear. Both the anterior and posterior chains of cervical glands, as well as the periauricular glands, are distinctly palpable. There is a linear scar two and one-half inches in length on the left side of neck.

Left external auditory canal is partially filled with a thick, yellowish, purulent discharge. After thoroughly cleansing the canal, a small, round perforation is seen in the postero-superior quadrant of the membrana tympani, through which the discharge in the middle ear cavity is seen to pulsate. There is decided sagging or drooping of the postero-superior bony wall of the external auditory canal.

Inspection shows neither redness nor swelling over the mastoid process. Pressure over the mastoid elicits exquisite tenderness, located over the antrum and tip, but most marked over the region of the emissary vein. The tenderness also extends back to the median line of the occiput. The right ear is normal.

Urine: Clear, dark amber, no sediment, reaction acid, specific gravity 1.023 no al-

bumin, no sugar. Microscopic examination shows a few squamous epithelial cells; some leukocytes; no casts; amorphous urates.

Blood: Hemoglobin, 60 per cent, of normal. Red corpuscles, 3,400,000; white corpuscles, 9,000. Differential count: Small mononuclears, 21; large mononuclears, 25; transitionals, 2; polymorphonuclears, neutrophils, 52.

Wassermann test negative.

X-ray of chest shows numerous healed and calcified glands in the middle lobe of the right lung.

Culture from the pus from the ear showed the presence of streptococcus pyogenes and staphylococcus pyogenes aureus, the former predominating. Stains for tubercle bacillus were negative.

A diagnosis of acute suppurative mastoiditis, probably tuberculous, was made and immediate operation advised. The patient was admitted to the Clark County Hospital on April 5, 1923, and prepared for operation.

Operation: (April 6, 1923). The patient was prepared for operation in the usual manner. Ether anesthesia. The external auditory canal was syringed with bichloride of mercury solution, 1:4,000, and considerable thick, yellow pus removed. The field of operation was painted with tincture of iodine. An incision was made from the tip of the mastoid process to the upper attachment of the auricle, one-fourth inch posterior to and parallel with the auricular attachment. The periosteum was elevated and the retractors introduced, after which the cortex was carefully inspected. There was no perforation of the cortex. The cortex was removed with the chisel and mallet; the bone was soft and bled freely. The superficial mastoid cells were filled with granulation tissue. The antrum was large and unusually deep and filled with granulation tissue. No free pus was encountered until the deeper cells were reached, when large quantities of yellow, creamy pus rolled out. The mastoid tip was so necrotic that complete removal was necessitated. The lateral sinus was exposed over an area of 5mm. in diameter, but there was no pus surrounding the sinus. The bony necrosis extended so far backward, that it was necessary to make a counter-incision, at right angles to the first, in order to expose and remove all the necrotic bone. The emissary vein was exposed for about 1 cm. There was an osteomyelitis of the skull, extending back almost to the median line. The posterior bony wall of the external auditory canal was very soft and necrotic and a considerable portion was removed. The dura was not exposed. After all the necrotic bone had been

removed by means of the curet and a smooth and clean cavity obtained, it was packed lightly with iodoform gauze and the upper and lower angles of the wound sutured with linen thread and a dressing of sterile gauze applied with a roller bandage. The patient was returned to bed in good condition.

Cultures from the pus from the mastoid cavity at operation showed a pure culture of streptococcus pyogenes. Stains for tubercle bacilli were negative.

The wound was dressed daily and the sutures removed on the sixth day. At first the mastoid cavity seemed to granulate in the usual manner and there was only a very slight amount of discharge. Two weeks after operation, however, the healing process began to lessen and there was an increased amount of purulent discharge. At the end of the third week the perforation in the drum membrane had completely healed. At the end of the fourth week, the mastoid cavity was about one-half filled, but there was a large cavity leading down into the antrum, which was continually filled with thick, yellowish pus, and contained unhealthy granulations. This cavity was curetted and all the granulations removed. The bony walls of the antrum were exposed, but the bone seemed to be hard and firm. This cavity was packed with iodoform gauze, and apparently began to heal from the bottom, although the process was exceedingly slow during the next four weeks, when it again broke down. This cavity was again curetted, and a small amount of soft bone removed from the antrum. During the next three weeks it seemed to be granulating, but finally became stationary. At this time the patient complained of pain in the neck and was unable to sleep. During this period repeated stains for tubercle bacilli were negative.

It was finally decided to open up the mastoid cavity again and remove any necrotic bone that might be present.

Secondary Operation: (July 3, 1923). Ether anesthesia. An incision was made through the scar from the former incision, and the mastoid cavity exposed. The antrum was found to contain pus and granulations and the bone was soft and necrotic, the necrosis extending down along the posterior bony wall of the external canal. This was thoroughly removed with the curet. The lateral sinus was still exposed over the same area as at the previous operation, but the exposure had not increased in size. The posterior part of the cavity was firmly healed and was not disturbed. The cavity was packed with iodoform gauze and a sterile gauze dressing applied with a roller bandage.

The patient was much improved following this operation and the pain in the neck disappeared and she could sleep. The wound was dressed daily and kept moistened with Carrel-Dakin solution. The wound seemed to progress favorably for three weeks, at the end of which time the wound had only partially filled up and there was still a good sized cavity leading down to the antrum, as had previously been the case, and this showed no further tendency to heal, and was constantly filled with thick, yellowish pus.

At this time the patient began to complain of considerable pain in the neck and sore throat and difficulty in swallowing. Examination of the throat revealed redness and swelling of the left half of the posterior pharyngeal wall, which was painful to the touch. The appearance of the pharynx resembled very much a beginning retropharyngeal abscess. Both the periauricular and cervical glands were considerably enlarged and painful. The patient was unable to turn her head without great pain and was unable to sleep on account of the pain. An X-ray of the neck showed no evidence of necrosis of the cervical vertebrae. The haemoglobin was only 50 per cent of normal.

Instead of instituting further operative interference, it was decided to employ the actinic rays, and accordingly on August 6, 1923, the patient was given the first treatment, which consisted of the introduction into the mastoid wound of a straight quartz rod applicator, attached to the Kromayer water-cooled quartz lamp. The applicator was introduced to the bottom of the wound and allowed to remain for one minute, after which it was removed, and with the water cooled burner at a distance of eight inches, the external surface of the mastoid and the enlarged cervical glands were rayed for two minutes.

On the next day, the applicator was introduced to the bottom of the wound, and allowed to remain for four minutes. The external application of the rays was given at a distance of eight inches for a period of three minutes. In addition to this, the patient was given general body radiations with the Alpine quartz lamp, with the intensifier on, at a distance of forty inches for a period of one and a half minutes each to the chest and back.

On the third day, the applicator was allowed to remain in the mastoid wound for one minute only. The lamp was then applied in contact with the external surface of the mastoid for two minutes and over two of the enlarged glands of the neck. The body radiations were given at a distance of forty



inches for a period of three minutes each over the chest and back.

These treatments were carried out daily, as just outlined, with the exception that the body radiations were gradually increased in length of exposure until eight minute exposures were given, and the distance of the lamp was decreased until twenty inches was reached.

After the fourth application of the rays, the patient was able to sleep through the entire night, something she had not done for sixty days. The only pain that she complained of at this time was at the base of the brain, just below the external occipital protuberance, the severe pain and stiffness in the neck having entirely disappeared. The pain in the throat and difficulty in swallowing had also disappeared, although the redness and swelling on the posterior pharyngeal wall were still present. The discharge from the mastoid wound had entirely disappeared, there being only a slight moisture of the walls of the cavity.

At the end of ten days the bottom of the cavity in the mastoid was granulating and firm, and there was no evidence of exposed bone. The wound continued to heal gradually, until at the present time, a little over five weeks after the beginning of the application of the rays, it is firmly healed. The pain at the base of the brain disappeared on August 18, twelve days after the beginning of the treatment with the actinic rays. On August 19, the redness and swelling on the posterior pharyngeal wall had entirely disappeared. On this date the haemoglobin was 65 per cent of normal. During the time that the actinic rays were employed no other treatment whatever was administered.

In conclusion, I would call attention to the fact that the symptoms in this case differed very slightly, if at all, at the beginning of the affection, from those of the ordinary acute suppurative mastoiditis, and it was impossible to determine whether we were dealing with a tuberculous lesion of the mastoid or an acute purulent mastoiditis in a tuberculous subject. It was only in the subsequent course of the disease that its tuberculous nature was evidenced by the asthenic condition of the wound, with carious destruction of the bone continuing for months. In one of Politzer's cases, in which the operation had been repeated several times, the entire mastoid, the greater part of the bony walls of the meatus, the apex of the petrous bone, and a large part of the tegmen tympani and antri were removed. The wound thus made, formed a large, actively secreting cavity, which was always filled with pus, and in which the exposed carotid artery

developed into a sacculated aneurism. The destructive process finally extended along the cavity to the other side, and the patient died of tuberculosis, basilar meningitis.

The tubercle bacillus frequently cannot be discovered in the discharge, as was true in this case. However, the fact that there were tuberculous lesions in other parts of the body, and the continued destruction of bone, even after operation, were practically conclusive evidence of the nature of the disease.

---

## FOCI OF INFECTIONS ABOVE THE COLLAR BONE AND IMPORTANCE OF THEIR EARLY RECOGNITION.\*

By R. W. BLEDSOE, Covington.

My interpretation of the title assigned to me would be to include not the open or ulcerated areas of suppuration from which the pus may drain freely and unhindered, but to refer specifically to the localized purulent inflammations acute or chronic, but particularly chronic, from which absorption of the toxins is prone to occur on account of either partial or complete interference with the drainage of the pus therefrom.

In other words, the term foci, as understood by me, means areas of pocketed pus with inadequate drainage and from which germs or toxins are being taken up by the lymphatics or blood or both, to be deposited elsewhere and followed by secondary localized infections, or retained within the circulation and give rise to some general systematic manifestations to be spoken of later. Therefore, I shall not attempt to incorporate localized inflammations or ulcerating areas of the scalp of the head, skin of the face and neck, nor the mucosa of the buccal or respiratory tracts.

This article is more of a compilation or a tabulation in concise form, in anatomical relation as it were of the usual foci of infection above the collar bone, with little or nothing new that I can add in the way of suggestion; neither will I attempt to cover all the symptoms pertaining to each area involved, but to call attention to the predominating features present in the average case. In other words, noting the salient features which go to make up the diagnosis of the case.

While foci of acute infections come under this heading, they are practically always manifested by sufficiently well marked definitely localized severe pain, and associated

---

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September, 1923.

with it are the general toxic symptoms as increased temperature and pulse rate, weakness, loss of appetite, and sweats, due to the absorption of toxins and the systemic reaction to same.

Such being the case generally, the acuteness of the localized symptoms are sufficiently clear to permit of a ready diagnosis.

The foci of infection that give us the greatest concern are those of a sub-acute, or more commonly chronic variety in which the localizing symptoms are to a greater or less extent obscure or absent. The prolonged low-grade toxæmia in these chronic cases is manifested by various and varied symptoms such as, tired feeling, weakness, loss of weight and appetite, sleeplessness or drowsiness, impaired digestion, constipation or diarrhea, localized or shifting pains, mild or severe in nature, irritability, nervousness or impaired vision. Such chronic cases are the ones in which we all are particularly interested, and in which, not only the patience of the sufferer, but also those of the doctor, are frequently taxed to the utmost. At times, however, it may be a comparatively simple matter to run down a focus of chronic infection by those habitually making systematic and careful examinations; usually, however, it means that area after area is to be investigated thoroughly for some signs of abnormality.

In so doing it is necessary to call to our aid all the known refinements used in diagnoses, such as transillumination, nasopharyngoscope, suction or aspiration, sinus perforation and X-ray in addition to the previously made blood tests and cell counts.

Not until after a very thorough and painstaking examination of all of the regions where foci are at all possible to be present, is one justified in making a negative diagnosis.

We should each develop our own method of routine technique being thorough in all details, starting the examination at a certain place, and following up each area in the same order, and finishing with the same location in each patient.

How far the haphazard mechanic gets in repairing your auto, is well known to all. Occasionally, he is lucky, and discovers the actual trouble. Moral: Be systematic and take nothing for granted.

Beginning from above, the first area to mention is the frontal sinus. In the acute stage we have the severe pain complained of at the inner angle of the eye-brow, usually worse at the same hour each day, and aggravated by tapping with the finger tip over the anterior wall, or by upward pressure on

the floor of the sinus with the finger tip in the inner angle of the orbital cavity. Upon nasal examination the turbinates on corresponding side are found markedly intumescent; pus may or may not be seen. These with the usual history of an associated acute rhinitis make the case clear.

Chronic frontal sinusitis, however, the patient frequently complains of no pain at all in the region of the frontal sinus, or, at most, of an inconstant dull heavy aching. The turbinates may or may not appear abnormal; there may or may not be a purulent discharge seen under the middle turbinate, and when present the amount may be much or little. Polyps may or may not be seen.

The middle turbinate is to be shrunk and naso-frontal duct probed and possibly irrigated to ascertain if pus is present.

If the duct is patulous, aspiration will likely be followed by some escape of pus when sinusitis exists. The examination, of course, is not complete without the X-ray plates.

Acute anterior ethmoidal sinusitis is manifested by symptoms similar to those of frontal-sinusitis, except that the severe pain is elicited by pressure with the finger tip pressed deeply and firmly against the inner wall of the orbital cavity of the affected side. Likewise, will the turbinates be markedly turgescient. Pus may or may not be seen in the middle meatus.

Shrinkage under the middle turbinate is often followed by at least some discharge of pus.

In the chronic stage there may be no pain or only more or less periodical dull ache in the forehead and orbital cavity. The turbinates may look very good; they may be polypoid, or as is frequently seen, the nasal chamber is blocked with polyps.

After shrinkage, pus may be obtained from under the middle turbinate or aspiration may cause it to appear.

When polyps are present, their pedicle can be traced up under the middle turbinate.

In acute posterior ethmoiditis there may be severe pain over the entire side of the head and behind the eye, or unilateral impairment of eyesight may supervene from pressure on the optic nerve on the corresponding side. The turbinates are intumescent; there may or may not be pus draining down over the posterior tip of the middle turbinate, especially after thorough shrinkage, and can best be seen with the nasopharyngoscope.

In chronic posterior ethmoiditis it is common to have a history of periodical dropping of discharge into the throat, varying markedly



in amount; some merely mentioned its occasional presence, while others are annoyed by frequent clearing of the throat. In cases of long standing where the drainage is free, a stubborn naso-pharyngitis develops, upon which the discharge dries, and is difficult to dislodge. Polyps may be present in the superior meatus. Pain may occur as a dull pressure behind the eye, or impaired sight on affected side may be the only complaint.

The sphenoidal sinus at times has its part to play; the pains when present are usually referred to the back of the head on the same side. The posterior portion of the turbinates, especially that of the middle may be comparatively normal, turgescient, or even polypoid. After shrinkage and with the aid of the nasopharyngoscope, one may discover pus exuding from the sphenoidal foramen.

If not an endeavor should be made to probe it to ascertain if it is patulous or plugged with polyp.

Recesses in the adenoids frequently retain infection from which absorption takes place, and renders this region very susceptible to repeated, acute exacerbations. In the young, any one of these adenoid flareups is likely to be followed by an extension of the infection upward through the eustachian tube into the middle ear; hence the adenoid when present should be removed early, preferably around four to five years of age, but even in infancy if sufficiently large, as to impede the respiration or cause difficulty in nursing. Infants so afflicted, after the operation improve rapidly, because of their ability to nurse and breathe well, rest very much better, and as a result of these they gain in weight. Moreover, they are very much less susceptible to the usual diseases of children later.

Otitis media in the acute form gives unmistakable localizing indications as severe pain deep in the ear lasting anywhere from an hour or two to several days. Usually the drum membrane ruptures spontaneously or is incised freely.

In chronic otitis media pain is not present except during acute exacerbations. Usually a perforation of the drum membrane exists, varying in size from a pin-hole to practically a total absence of the drum. The discharge likewise varies markedly; frequently ceasing and reappearing over a course of years. The chronic cases are always "flirting with a volcano" as it were, especially where drainage is impaired. There may be a gradual but progressive erosion of bone in any direction, with later complications depending upon whether its extension is toward the middle fossa, the lateral sinus or of the floor.

Acute mastoiditis is manifested by practically unmistakable evidences of the trouble. Pain is complained of behind the ear, commonly proceeded by a middle ear abscess. Even moderate pressure with the finger tip over the mastoid antrum increases the suffering markedly. These, with the history of acute rhinitis or influenza complicated by pain in the ear with the bulging drum membrane or that of a sudden cessation of discharge from an old suppurating ear, elevation of temperature and pulse, and prostration, all go to make up the picture of acute mastoiditis.

In the chronic mastoid, the drainage through the aditus antrum into the middle ear may be inadequate to remove the debris from the suppurating area within the mastoid as quickly as it is formed. Under such circumstances there exists an increased tension within the abscess cavity, which may be limited to the antrum alone or may include also the entire mastoid cellular structure. A large suppurating cavity is frequently found at the tip of the mastoid, and is quite likely to be associated with systematic absorption because of its being located so far below the level of the point of drainage, which is through the mastoid antrum and aditus into the middle ear. Interference with drainage in a chronic suppurating mastoid is due either to the plugging as it were, of the aditus with a collection of thick pus or to a swelling of the mucosa lining the aditus as result of exposure of the ear to trauma, cold air, as riding in a car next to an open window, or, irritating installations. This swelling may or may not be sufficiently severe or prolonged as to convert the case into an acute mastoid. If it does not, it will at least be followed by an increased rate of absorption temporarily, or until free drainage is again restored.

The antrum of Highmore is a rather common location of infection. In the acute form, the diagnosis is not difficult, as severe pain is complained of in the cheek. The pains are also referred to the eye and teeth on the affected side.

In the chronic form, however, it is frequently quite different, no pain in the cheek is complained of, neither does pressure in the antrum region elicit any. The patient may recall occasional twinges of pain around the eye or some apparent sensitiveness of the teeth, or, an occasional and momentary perception of a foul odor is often mentioned. Little or no discharge is complained of.

The turbinates may be apparently healthy, in other intumescant. X-ray plates, perfora-

tion of antral wall and washing of the sinus will make the diagnosis clear.

The tonsils probably are the source of the greater number of secondary symptoms or complications. So much has been said and written about tonsils that I hesitate to make reference to them; not only the profession but the laity know all about tonsils today.

However, as they are part and parcel to this subject, I cannot pass them by without some attention, even though it be tiresome repetition. In the acute form, the tonsils are inflamed, swollen and very painful, especially upon swallowing. There is the associated chill usually, the elevation of temperature and pulse, the backache and tenderness in the cervical regions and the prostration.

In the chronic variety, the tonsils may be large, medium or small; they may, and as a rule, do look comparatively normal, there may be one or more enlarged crypts at the bottom of which, by probing, is found a large pocket filled with debris.

Upon milking or pressure with blunt instrument, a varying quantity, sometimes a surprising amount, of foul cheesy exudate may be expressed. When such condition is found involving the upper one-fourth of the tonsil, especially if the tonsil is phimosed, in other words,—when the anterior and posterior pillars united above and cover the upper portion of the tonsils, one can, with a decided degree of certainty, say that the patient is absorbing poisons and is constantly to a greater or less extent toxic.

In quinsy or peritonsillar abscess, the course is usually acute in character,—either spontaneous rupture takes place, or paracentesis is followed by prompt recovery. Occasionally, however, a downward perforating peritonsillar abscess may find its way into the mediastinum and terminate fatally.

While retropharyngeal abscess may not be entitled to be mentioned in this paper, it is well to call attention to the fact that they do occur and possibly a little more frequently than is ordinarily suspected. The difficulty in swallowing food or drink, later associated with noisy and impaired respiration are the distinguishing features, besides fever and rheumatic pains in those old enough to refer to them.

The real cause may be readily overlooked, especially in the very young, when, upon examining the throat, the tonsils do not appear much inflamed. The portion of the pharynx one is able to see in the fighting youngster may appear normal. It is quite difficult to see far enough down the throat to make a diagnosis of retropharyngeal abscess, and, it may even be necessary to insert the

finger low into the throat to discover the cause.

Pyorrhoea undoubtedly is injurious to the sufferer in two ways: Firstly, in those instances where the infection is situated superficially around the gum margins and the exudate has free access to the mouth. The continuous swallowing of this discharge with the food and drink over a prolonged period of time, must eventually be followed by some pathology at least on a part of the gastrointestinal tract.

Secondly, and this form is more in keeping with the title of the paper, is that variety in which the pyorrhoea is pocketed as it were.

The foci are more deeply situated and exudate from same is more or less confined, not draining freely, if at all.

Such cases, complicated by various muscular or nerve pains, are very common. Abscesses at the roots of the teeth are not only very frequent but are the foci to which we trace many of the intractable forms of rheumatism and neuritis. Unfortunately, in many, if not most of them, the tooth is apparently healthy or properly filled, and to inspection does not indicate presence of such a volcano at its depth. Here is where the X-ray has benefitted mankind tremendously, by determining the location of these abscesses.

In dacryocystitis the acute form is readily recognized by the acutely inflamed and swollen area in the region of lachrymal sac. Pus may or may not be present at the inner angle of the eye,—depending upon whether or not the lachrymal canals and puncta are patulous. When absent, it may be expressed through puncta by pressure on the sac.

In chronic form, the patient may overlook giving a history of long standing purulent discharge of a small amount appearing on the lids especially if pressure is made between the eye and the nose.

This to their mind is rather less annoying than the flooding of the eye with tears which run down over the cheek. With the nasal duct strictured, this region forms a very favorable focus from which absorption might take place. The early recognition of the acute form is quite essential, and every effort made to prevent if possible spontaneous rupture or the necessity of incising the abscess, by irrigation through the lachrymal canals, and possibly the most gentle use of the lachrymal probes, endeavoring to furnish draining through the nasal duct and into the nose.

Not even the force that is ordinarily exercised in passing the probe through a moderate stricture is permissible, because of the readiness with which the probe may lacerate the



swollen mucosa. Much care used in these acute cases will help to lessen the number of chronic sufferers for which innumerable but no perfectly satisfactory operation has been devised.

Broken down lymph glands are mentioned but not dwelt upon because of their ready recognition. It might not be amiss, however, to emphasize the extreme advisability of preventing the cause in many of these cases at least, by early elimination of badly diseased tonsils and adenoids.

The thyroid gland is a prolific source of a serious form of intoxication with symptoms on the part of the heart, nervous system and the eyes. However, it is not directly a true and simple infection, as we understand it today, hence we will only speak of it here.

The early recognition of an acute frontal, ethmoid or sphenoid sinusitis and followed by appropriate treatment will lessen the possibility of the infection passing through to the dura, and the development of meningitis. True, this is not a common occurrence, but it does take place at times, and I am sure we will feel much safer if we know that drainage is good. Moreover, the early diagnosis and treatment will encourage the early restoration to normal of the mucosa lining the sinus, and thereby markedly lessen the tendency to the development of a chronic form, with its destructive erosion of mucosa and bone, and the formation of polyps, which will ultimately not only interfere with the air intake, but do materially interfere with the drainage from the already badly diseased sinus. Not infrequently these chronic cases do not come under observation until general toxic symptoms are sufficiently pronounced as to cause them to seek relief from same. Likewise, will the early recognition of acute infection of the maxillary sinus associated with the appropriated treatment of same, markedly lessen the probability of an after chronic sinus accompanied by its many unpleasant features; a chronic antrum will not infrequently be discovered without a history of an acute involvement previously and in which the symptoms are manifested only by a periodical pain in some of the upper teeth on that side, or, an occasional bad color. In some however, the symptoms are very vague, and not referable to the antrum at all.

If these cases are discovered reasonably early, they may not only be cured promptly, but the patient saved months of worry as result of depreciation in health and the expense of useless medication and loss of time from business following a radical operation.

Acute middle ear abscess should be diagnosed and receive proper treatment promptly,

and thereby, avoid the probability of a meningitis or brain abscess by extension of the inflammation upward through the thin tegmen tympani into the middle fossa on the one hand, but also to markedly lessen the tendency to the development of an acute mastoiditis as a complication on the other.

The chronic middle ear with its accompanying polypoid degeneration of the mucosa may so block the large or small, perforation present in the drum membrane as to interfere with elimination of the pus that not only causes the low-grade systemic poison but also an extension of the erosion of bone ensues with the possibility of meningitis or brain abscess as a complication.

Early recognition of an acute mastoid with indicated treatment is imperative for fear of the development of acute meningitis or thrombosis of the lateral sinus, or brain abscess.

In the chronic mastoid, there is not only the ever present absorption of toxins, and their train of symptoms, but also the vulnerable area which may light up into an acute mastoid upon the slightest provocation. This, in addition to the ever present possible occurrence of sinus thrombosis a meningitis or brain abscess.

Adenoid growth should be recognized early and removed early; not only many of the acute middle ear infections in young children could be avoided, but they would undoubtedly be less susceptible to ordinary exanthemata. In addition, a great many would be saved from the distressing effect of impaired hearing of greater or less degree in later life.

Acute tonsillitis is now recognized readily enough by the laity, but, unfortunately, not always properly treated.

The local treatment, as gargles and physic are very good, but the patient should be carefully observed during the attack.

My personal observation has been that the cardiac complications occur more frequently in children than adults.

Rest in bed during the entire acute stage should be insisted upon in the hope of avoiding involvement on the part of the heart.

Chronic tonsils are well known causes of rheumatism and neuritis; hence, the recognition of such diseased tonsils should not be delayed; their removal may save the patient much suffering and loss of time.

Pyorrhoëa is insidious but positive in its progress, and its tendency to extend from tooth to tooth is well known. Bi-yearly examinations by the dentist would help to eliminate the condition before many teeth would be jeopardized. Any suspicious tooth

should be X-rayed for abscess; no routine examination of a patient suspected of focal infection is complete without an X-ray report of all the teeth.

### TREATMENT OF PNEUMONIA.\*

By A. E. HOWE, Grants Lick.

The treatment of pneumonia is of vital importance to every physician for it is no doubt the most serious acute infectious disease confronting the physician today.

Pneumonia has been considered a self limited disease tending to recovery but this can hardly be said to be generally true. The sthenic type be said to be generally true. The recovery with one or more lobes distinctly involved is not so frequent as a less circumscribed pneumonia, or asthenic type with a low temperature, and without much tendency to self limitations, and as statistics show not a great tendency to recovery.

The patients rest should be as near perfect as possible. To secure this the one treated should be placed in a large sunny and well ventilated room, plenty of fresh air should be admitted though drafts of air should be avoided. The temperature should be kept as near uniform as possible but not over seventy degrees Fahrenheit. Friends and relatives should not be allowed to congregate in the sick room as they disturb the patient's rest.

The diet should be liquid, and should consist of milk, broth, and eggs, given at regular intervals. The whole question of diet, is subject to common sense modification to fit the patient. The main object is to supply the patient with all elements necessary to promote metabolism and keep up nutrition and at the same time to avoid gastric and intestinal disturbances. The bowels should not be allowed to become constipated but one should be careful not to produce a diarrhea as this will prove weakening and lessen the chance for recovery. A cathartic should be given in the beginning of the disease and may be of the attending physician's choice. For this purpose I use either castor oil or a small dose of calomel followed by two grains of phenothalin, following this, when necessary I nearly always use castor oil.

When we come to consider the medical treatment of pneumonia, we can almost stop. The day is past when any dogmatic advice can be given in regard to the use of drugs in the treatment of this dread disease. The physician in charge of a case must decide what

drugs are needed to combat a condition or symptom, and which drug will the most nearly produce the result desired. This is one disease that we must avoid the radical and give up our pet hobbies. Common sense must be the watch guard over everything that is done. Codeine, aconite, veratrum, digitalis, belladonna, ipecac, and lobelia are the main drugs I use in the treatment of Pneumonia.

Codeine is only administered when necessary for the relief of pain, and then only in amount sufficient to accomplish the desired result.

Aconite is used early in the disease not for the effects upon the heart or respiratory centers but in small doses and for its influence upon the capillary circulation. Its first action is upon the terminal filaments of the sensory nerves, and thus it lessens the irritations within the congested tissues.

Veratrum is used in patients that were previously stout and healthy. On examination you will find pulse full and strong and heart beating as if it would jump out of the chest. This is a remedy with which you can control this excessive heart action without materially reducing the vitality or resisting power of the patient.

Belladonna stimulates the capillary circulation in the engorged area and acts directly upon the heart. It is a stimulant to that organ through its action upon the cardiac muscle and accelerator nerves.

Ipecac promotes secretion and relieves irritation of the mucous membrane. It is an excellent remedy to assist in clearing up the hepatization and in restoring normal conditions in the lung cells.

Lobelia improves the heart action, relieves capillary circulation and dissipates cyanosis.

Digitalis is a direct heart stimulant and through its power of increasing heart action imparts renewed force and an improved capillary circulation when the disease processes have had full sway, and the heart is unable to properly fill the pulmonary capillaries, and is depressed by the influence of the general disorder and is labored, overtaxed, and apparently slowly failing. This remedy is par excellent.

Local applications are frequently condemned but I nearly always use either libradol spread thin and applied to the chest morning and night or else apply camphorated oil and covered with a warm cloth. For abdominal distention turpentine stupes applied to abdomen are used. This is followed if necessary by soap suds enema containing turpentine and rectal tube is passed.

\*Read before Campbell-Kenton County Medical Society.



The serum treatment of pneumonia depends upon the accurate determination of the exact type of infecting organism. This makes it necessary to have the patient in an institution or else institutional facilities for the accurate differentiation of the types of pneumonia and then the choice of cases from those suitable for treatment because a large proportion of lobar and a very large group of the atypical and broncho pneumonia not being susceptible of attack by these measures.

The bacterial vaccines I have not used in the sthenic pneumonia. These cases apparently have the ability to develop an early and sufficient defense against the invading organisms and the case terminates by crisis.

In the atypical or asthenic cases where the patient does not develop this early defense, we have a long drawn out attack with a low temperature and a tendency of recovery by lysis. In these cases I have always found the bacterial-vaccines were of positive value in cutting short the ravages of the disease and in saving cases that would otherwise die of a toxemia.

In summarizing the treatment of pneumonia.

Absolute rest in bed with plenty of fresh, warm air.

Selection of nourishing diet with care to avoid gastric and intestinal disturbances.

Avoidance of constipation by judicious administration of drugs.

Conservatism in the administration of drugs at all stages.

Supportive measures throughout the disease.

Prompt attention to the relief of complications.

Care in choice of cases for administration of serum or bacterial vaccines.

#### Early Diagnosis of Syphilitic Chancre.—

Hudelo emphasizes the importance of early recognition of syphilis for the abortive treatment. In every case of soft chancre one should suspect syphilis. The seroreaction is necessarily negative in the stage (except for some possibilities with the use of serum from the lesion), but the presence of spirochetes is decisive, and should be looked for every day or two; by 0.5 to 2 mm. deep scarifications, followed by expression of the serum. The border between the lesion and the healthy skin may be crowded with spirochetes. The diagnosis before the tenth day of the disease should be the rule, not the rare exception.

## ACUTE MASTOIDITIS FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.\*

By SHELTON WATKINS, Louisville

As the time allowed for this paper will not permit full treatment of this subject, I will limit myself to a discussion of the more important and practical points.

**ETIOLOGY.** Acute mastoiditis is nearly always a complication of otitis media. The mastoid may, in rare cases, become infected through the blood stream without apparent evidence of a previous otitis media but one cannot ever be certain that the middle ear is not infected, because it is possible for the infection to pass by continuity through the middle ear but in some infection of the nose, definite symptoms within the former. In most cases the primary focus is not in the middle ear but in some infection of the nose, throat or sinuses. Not infrequently sneezing and violent blowing of the nose forces discharge into the Eustachian tube from where it spreads to the middle ear.

The most important microorganisms found are those of the streptococci and pneumococci groups and the pyocaneus bacillus. The hemolytic streptococcus and pneumococcus deserve special mention because of the severity of the infections they cause, and, also the liability to complications.

**PATHOLOGY.** Acute mastoiditis is a pure inflammation. First, there is the stage of vascular engorgement and cell infiltration; next, the suppurative stage, caused by the predominance of the polymorphonuclear leucocytes; and finally the stage of osseous necrosis. There are normally two types of mastoid bones—diploëic and pneumatic, but most mastoids are a mixture of both with one predominating. The sclerotic mastoid is most often the result of a chronic middle ear suppuration. Some cases are, however, independent of middle ear disease. There are no cells in the diploëic areas, only spongy, cancellated bone, and infection occurs by metastasis, forming small disseminated abscesses. In the pneumatic portions the cells are lined with a thin mucous membrane this is continuous with that of the antrum and middle ear, and the infection spreads by continuity. As the disease advances vital structures surrounding the mastoid may become involved and give rise to complications, such as: thrombosis of the lateral sinus, labyrinthitis, meningitis, brain abscess and palsy of the facial nerve. Lateral sinus thrombosis may

\*Read before the Muldraugh Hill Medical Society

in turn be followed by pyamia, septicaemia or pneumonia.

**SYMPTOMS.** The local symptoms are: pain, tenderness, inflammatory thickening of the periostem and overlying soft tissues, subperiosteal abscess, prolonged purulent discharge from the external ear and persistent deafness.

Usually the entire mastoid is painful and it radiates to the parietal and occipital regions until, in well marked cases, all of that side of the head aches. It is continuous, as a rule, and often prevents sleep at nights. Sometimes it is described as a "boring pain". On the other hand, there may not be actual pain, but more of an unpleasant sense of fullness, or heavy feeling in and behind the ear. Also, in rare cases, there may be neither pain nor discomfort of any kind.

The tenderness is most acute just above and behind the superior wall of the external canal, which is usually over the antrum, but frequently the entire bone is tender. Often when the external cortex is thick the tenderness is diminished.

Thickening and oedema of the periosteum and soft tissues covering the mastoid bone may sometimes develop to such an extent that it can be palpated and a difference noticed between the two sides. Periostitis occurs more often in the posterior-superior wall of the bony canal which is the anterior wall of the mastoid antrum. (1) Here a drooping, or sagging, is noticed and, in marked cases, the lumen of the external auditory canal appears oblique or elliptical.

Subperiosteal abscess is due to either the escape of pus along the squamo-mastoid suture (that normally does not close until between the second and third years, and sometimes remains open throughout adult life) or to rupture through the external cortex, which is quite thin and often cartilaginous in infants and young children. The auricle is pushed outward and downward. This is best seen from behind and by comparing with the normal ear.

Very profuse purulent discharge from the ear for four weeks without signs of remission, is strong evidence of mastoiditis, because pure middle ear suppurations clear up sooner, usually within two weeks. A sudden variations in temperature, as a sudden fall from abundant to very little, within a few hours, when the other symptoms continue without remission, is also indicative of involvement of the mastoid. Persistent and marked deafness for several weeks when associated with a purulent discharge is very suspicious of mastoiditis.

The general symptoms are fever, malaise and fatigue.

The temperature usually ranges from 100 degrees to 103 degrees F., but often it is below or above these figures and it varies somewhat. It may be absent but such is rare. When so, it is probably explained by very free drainage through the antrum. Sharp variations in temperature, as a sudden fall to normal, or subnormal, followed by a rise, point to intra-cranial complications. Other symptoms of intra-cranial lesions are chills, severe localized headache, delirium, restricted movements of the head and neck, sudden nerve deafness, vertigo and nystagmus.

Malaise is a symptom of general absorption and usually indicates an infection more extensive than otitis media. Fatigue shows that the patient's resistance is under a strain.

**DIAGNOSIS.** Usually, the diagnosis of acute mastoiditis is easy and can be made from the symptoms alone but, unfortunately this is not always true. Any of them may be absent and, indeed, there may not be any definite symptoms. In prolonged cases important local signs are apt to be absent. On the other hand, sometimes in uncomplicated otitis media, the pain and tenderness may extend to the mastoid bone. This is especially true of a nervous patient. Also, quite a high temperature may occur in a pure middle ear infection.

A subperiosteal abscess is diagnostic of acute mastoiditis. Other symptoms that strongly indicate it are: A deep-seated and continuous pain that keeps the patient awake at night; acute tenderness over the region of the antrum; sagging of the posterior-superior wall of the external osseous canal; profuse aural discharge associated with either deafness or earache for over four weeks; and persistent pain in the mastoid with headache and slight temperature following the healing of a middle ear infection. Mastoid symptoms in the beginning of an otitis media during the course of infectious diseases, are more serious than usual.

When we are not certain of the diagnosis clinically we should make use of certain laboratory aids, as the X-ray, complete blood count and bacteriological examination.

X-ray films are frequently a great help, provided the patient has not had a previous infection of either mastoid. They are more useful in the pneumatic type, because the contrast between the diseased and normal cells is greater than in diploic bone. The speaker considers a positive X-ray film associated with aural discharge and temperature as strong evidence in favor of mastoiditis,



and he thinks operation is advisable in such a case. If the temperature is high, he considers surgical measures as urgent. A positive X-ray film without clinical symptoms, is not an indication for operation. This, however, is rare.

A high polymorphonuclear leucocytosis associated with a middle ear infection is strongly indicative of acute mastoiditis. In acute suppurative otitis media the white blood count is apt to be between 8,000 and 12,000 per cubic millimeter. When it is above 15,000 cells, mastoiditis should be suspected, and when above 18,000 operation should be advised, assuming, of course, that there does not exist any general condition, such as pneumonia, that may also cause a leucocytosis.

Kerrison (2) says that one can not prognosticate from the microorganisms found in the tympanic discharge the future course, or severity of the aural disease, but the streptococci and pneumococci groups, and especially the streptococcus mucosus, more often cause intracranial infection than the other bacteria found in tympanic lesions. The pyocaneous bacillus should be added to this list. The virulence of the particular strain is more important. In doubtful cases, however, the presence of one of these types is an argument in favor of operation.

Conditions other than acute suppurative otitis externa, and mastoidalgia. Pediculae mastoiditis are: pediculae capitis, acute otitis externa, and mastoidalgia. Pediculae capitis can cause suppuration of the lymph glands near or over the mastoid, which may somewhat resemble a subperiosteal abscess.

In the former, "nits" are always present in the hair and in the latter, discharge is found in the external ear. In otitis externa (so-called "swimming ear") the outer, or cartilaginous, portion of the canal is swollen and not the osseous part. The entire auricle is sensitive to touch and the points of greatest tenderness are just anterior to and below the external canal. There is usually quite severe pain and in some cases it may radiate to the mastoid and even the occiput. The scant discharge and low temperature, or absence of it, help to distinguish this condition. Mastoidalgia with normal ear findings is most often due to dental disorders, especially impacted lower molars.

It must be remembered that no two cases are alike, and all kinds of combinations of symptoms occur, and that the personality of the patient greatly influences the valuation of symptoms. It is, therefore, impos-

sible to set any hard and fast rules for the diagnosis of this condition.

**TREATMENT.** The ideal treatment of acute mastoiditis is, surgical and, in view of the seriousness of the complications, the sooner the better. It is the location of the mastoid antrum and cells that makes infection within them so dangerous. Above is the middle cranial fossa containing the temporo-sphenoidal lobe of the brain: behind, the sigmoid (or lateral) sinus; medially the labyrinth of the internal ear; and both medially and anteriorly is the ridge of the facial nerve.

Medical treatment is not justified unless the patient refuses to submit to operation. In such a case, provided no alarming symptoms exist, it may be tried for a few days, at the patient's risk. He should be put to bed; given soft, nourishing food; the temperature taken every four hours, day and night; a free incision made in the tympanic membrane; the external canal irrigated as frequently as necessary to prevent stagnation of the discharge; and heat applied for 30 minutes every 4 hours. Cold may be tried during the first day of the disease. Constant attention and observation by a nurse or member of the family is necessary. If after three days, no definite improvement occurs, operation should be insisted upon. Every experienced aurist knows that cases of acute mastoiditis may undergo resolution without operation, but it is "playing with fire." Acute inflammation of the mastoid is as much a surgical condition as of the appendix, and it is equally true of both conditions that without an operation a few patients will get well but many more will die.

Acute mastoiditis following chronic suppurative otitis media is often secondary to a cholesteomata. An operation in these cases is imperative because of the danger of intracranial complications.

There are three points in regard to the operation that I wish to emphasize. First, it is always advisable to have an X-ray film made. Besides its usefulness in making the diagnosis, it gives an outline of the mastoid showing the distribution of the cells and the position of the sigmoid sinus, which is most helpful during the operation. Second, the antrum should be entered and all diseased bone should be removed. Third, the soft tissues should be closed except for an opening below for drainage. When the wound is closed this way, it heals within from one-half to one-third of the time required by the old method and there is little and frequently no deformity. Subperiosteal abscess cases are an exception; they should be treated by the open method.

The primary focus of infection should not be overlooked, and it should be treated either at the time of the operation or at an early date after recovery.

## REFERENCE

1. Alexander, Gustav, "Diseases of the Ear in Infancy and Childhood," second English edition, 1917, pp.
2. Ibid, pp. 170. Dench, Edward B., "Diseases of the Ear," fifth edition 1919, pp. 442 and 443.
3. Kerrison, Philip D., "Diseases of the Ear," second edition, 1921, p. 159.

## SARCOMA OF THE CHOROID.\*

By SAMUEL G. DABNEY, Louisville.

Cancers of the eye-ball are sufficiently rare to be of interest. Sarcoma of the choroid occurs about once in 3000 cases of ocular disease; its course is usually divided into four stages. In the first stage it is visible only with the ophthalmoscope, and there is detachment of the retina with impaired vision; this detachment is smoother than the detachment from other causes and not thrown into folds, but these differences are not well marked always.

The age for intra-ocular sarcoma is usually between forty and sixty, but occasionally it is seen at a much earlier period of life. In the absence of myopia and with no history of injury, detachment of the retina occurring past forty always arouses the suspicion of a tumor. The routine procedure of oculists in such cases is to trans-illuminate the eye-ball; this is done by first cocaineizing the eye and then in a dark room pressing a small flat electric light on the sclera in different positions; the pupil appear luminous unless there is a new growth in which case pressure over that area fails to light the pupil; even this test, though very valuable is not absolutely certain. This first or quiescent stage usually lasts from six to twelve months or more.

In exceptional cases instead of there being a simple detachment of the retina the ophthalmoscope shows a smooth, glistening, mere or less hemi-spherical, small black growth projecting from the posterior coat of the eye-ball; such an appearance points with practical certainty to a melano-sarcoma.

A good many years ago a young lady brought her mother to see me with exactly this condition. Notwithstanding that the sight was still 20-50 I advised enucleation and suggested a consultation. The late Dr. J. M. Ray saw the case and agreed with the diagnosis and urged early operation; this

was declined, however, and the lady died some years later from a disease which was probable a metastasis to the liver.

In the second stage of sarcoma of the choroid the eye presents the symptoms of acute glaucoma—great hardness, inflammation, steamy cornea, great pain, and sometimes vomiting; before this occurs, as a rule, sight has been lost.

In the third stage, the growth breaks through the sclera either anteriorly or more frequently posteriorly invading the orbit.

The fourth stage consists of metastasis which in the great majority of cases is to the liver. It is of great importance to remember, however, that these stages do not always follow in regular sequence, but the metastasis may and often does occur while the growth is still confined to the interior of the eye-ball. In exceptional cases instead of glaucoma the growth causes an irido-cyclitis with shrinking of the eye-ball.

The treatment, of course, is enucleation of the eye. Unless the diagnosis is very positive, as was true in the case of the lady above mentioned, we hesitate to remove an eye which still has useful vision. On the other hand when no other cause for detachment of the retina can be found; when the eye becomes completely blind if trans-illumination shows a dark area it would probably be best to immediately remove it without waiting for glaucomatous symptoms. This was impressed on me some years ago by the case of an elderly gentleman from an adjacent city. I was confident, though the glaucoma had not begun, that he had sarcoma of the choroid and urged enucleation; this advice was also given by the late Dr. Wm. Cheatham. The patient declined, however, to have the eye removed and returned to his home. Many months later the eye was removed in another city, but metastasis to the liver had already occurred and proved fatal. This metastasis is by far the most frequent cause of death.

The proportion of permanent cures by operation is variously estimated from twenty-five to fifty percent.

Hirschberg gives permanent cure at about fifty per cent, recurrence in the orbit at about two and a half per cent, and metastasis to the liver at about forty seven and a half per cent. It has been sometimes advised that a glass eye should not be worn after enucleation in such cases because it might increase the chance of a recurrence in the orbit—in my own experience, however, I have adjusted a glass eye and in the case of one lady it was worn for over thirty years.

\*Clinical report before the Louisville Medico-Chirurgical Society.



In doing the enucleation the optic nerve should be cut as far back as possible for safety sake, if the orbit is involved complete enucleation of the orbital contents is indicated.

The following case has recently come under my observation: Mr. X., aged 60, consulted me in July, 1922, because of impaired vision in his right eye. I found the left eye normal and with the correction of a slight hypermetropia giving perfect vision. In the right eye with the correction of a similar hypermetropia the vision was 20-70. Ophthalmoscope showed a detachment of the retina downward; the detachment was smooth and well defined and rather suggestive of tumor. Trans-illumination showed that the pupil was not luminous when the light was placed on the lower part of the sclera.

I expressed the opinion to the patient that he probably had a growth in his eye, and advised him to return every few weeks for examination, but telling him to come at once if the eye became blind or painful. He did not return until the 15th of August, 1923; the eye was blind and in an acute glaucomatous condition, and ophthalmoscopic examination was impossible. As he was suffering great pain he readily consented to enucleation which was done on August 15th. I cut the optic nerve fully a half inch or more behind the ball. On examining the eye-ball after removal a small, black, glistening mass was seen just beginning to protrude through the sclera not far from the optic nerve entrance; it had evidently as yet not invaded the orbit. Microscopic examination showed it to be a melano-sarcoma.

One question presents itself in such cases: Is the use of the X-ray or radium to the orbit likely to prevent a recurrence in this locality? As such recurrences occur in only a very small proportion of cases, and as the use of the X-ray in such cases is of doubtful value, I question the wisdom of its use, but will be glad to have the opinion of the general surgeon on this point.

**Stomach-Liver Syphiloma.**—Florand and Girault diagnosed the syphilitic nature of the stomach disturbances from their persistence for three years, the good appetite, and absence of tenderness, and the fact that the large tumor disclosed by roentgenoscopy would have been more debilitating if malignant. Another instructive feature was the tolerance for potassium iodide; the stomach objects to this drug in all but syphilitic disease. The fear that sclerosis was probably installed led to a laparotomy.

## MANAGEMENT OF THE RUPTURED APPENDIX.\*

By J. G. GAITHER, Hopkinsville.

The scope of this paper will be limited strictly to the discussion of the treatment of the condition of ruptured appendix. Acute perforated appendicitis has challenged the surgical skill of all ages. It has long been recognized as one of the most frequent causes of the acute surgical abdomen. When rupture of the appendix occurs it announces itself in terms which are usually unmistakable to the diagnostician of ordinary ability. The syndromes of symptoms which accompany rupture of the appendix announces unmistakable the advent of a most serious condition.

Rupture of the appendix can be placed in no other category than that of rupture of any other viscus in the abdomen. Should we diagnose rupture of the gall-bladder, rupture of a gastric or duodenal ulcer, rupture of a typhoidal ulcer in the small intestine, rupture of the uterus, the one type of treatment is undoubtedly surgical. Yet we still have surgeons and practitioners, alike, who advocate delay in operative interference in the ruptured appendix. The reason given is, that the abscess may have time to wall off.

It has been our practice for many years to operate promptly, every case of perforated appendicitis. The initial shock of the perforation has usually passed by the time the patient has been seen by the consultant or ourselves and has been gotten to the hospital. Food and drink are interdicted at once; usually a small dose of morphine is given.

The operative work is usually done through a right rectus incision of medium length. It is the effort of the writer, if he knowingly is about to enter an abdomen in which there is a ruptured appendix, to do the operation through as small an incision as is consistent with skillful work, avoiding the long incision which would naturally accompany an exploratory operation. The subsequent infection of the wound is not so likely to leave a hernia. Packing of the small intestines from the field of operation is an important step. Should the ruptured appendix have been successfully walled over by omentum and this patch of omentum can be left attached to the appendix, it is severed and removed *in situ*. In many cases where the appendix lies deep in a fat individual, it is the part of surgical wisdom to remove the appendix

\*Read before the Kentucky State Medical Association, Crab Orchard Springs, September 17, 18, 19, 20, 1923.

by retrograde incision, severing the appendix at its base, first invaginating the stump, and proceeding gently to clamp, ligate and sever along the mesoappendix out to its tip where is the most frequent point of rupture.

Many operators prefer not using linen as a purse string suture where pus is present or anticipated. It has been the writers experience, over a period of fifteen years to use and this small linen stitch has never given rise to any trouble and I still employ it routinely in clean and septic cases.

The question of drainage is paramount, it was formerly our custom to drain all cases in which there was any suspicion of contamination; the dictum being, "When in doubt drain." Of recent months we have changed this to "When in doubt do not drain." In other words, when the peritoneum is contaminated and the perforation evident we drain in all cases. If, however, the gangrenous condition is not quite through the peritoneum, but with a blackish spot, leaving one in doubt as to whether there has been actual bacterial contamination, we usually close the abdomen without drainage. Drainage is instituted in our clinic by two split rubber tubes, one tipping over into the brim of the pelvis and one extracecal. We do not irrigate but mop dry.

Post operative care is fairly important. We have tried out thoroughly deep morphinization. I am not especially impressed with it. We use routine rectal instillation of either normal saline or soda glucose solution. I think this treatment doubtless alleviates the patient's thirst and tends to put in proper balance the fluid contents of the body. That it has any influence on the infective progress, I doubt.

It is usually our custom always to remove the appendix in this type of case, as it is usually seen in the first three days of the attack. In ancient delayed abscess formation about the appendix we frequently make no such for it.

In a recent meeting of the Christian County Medical Society a distinguished Louisville Surgeon in discussing peritonitis said that he no longer operated acute appendicitis in the middle of the night; that if a patient came into his hospital at twelve o'clock at night, with a violent appendicitis he waited until the next morning to operate at nine o'clock. We wish to take courteous issue with this surgeon. The difference of four, six or eight hours is a period of time in which acute violent appendicitis, if operated, may mean the difference between ruptured and non-ruptured cases. Thrombosis of the appendicular artery and vein having occurred, at once

gangrene intervenes, perforation following quickly in its wake. We therefore, take the position that there should be no delay in prompt surgical intervention in a ruptured appendix.

## DISCUSSION

**Irvin Abell:** Mr. Chairman and Gentlemen: One would think that in the years that have gone by with our very rich experience in dealing with appendicitis, papers on this subject would express practically a crystallization of the views of the entire profession. I believe this is largely true, and yet the need of such papers is amply demonstrated by the fact that there occur in this country each year over 10,000 deaths from appendicitis. I think it is perfectly fair to assume that of these 10,000 deaths a large percentage are due to improper treatment or delayed recognition of the condition.

In so far as the interpretation of the rupture is concerned, in my own work I have always interpreted this to mean a break in the appendix wall whether from gangrene or ulceration, so that the contained infection is spread to surrounding tissues either localized or generalized.

I am going to digress from the scope of his paper just for one moment. I really think that the best treatment for ruptured appendix, if one might use this term, is to prevent the occurrence of it. In looking back over my own experience, the vast majority of cases of perforated or ruptured appendix that have come under my observation have followed the administration of a purgative. I can't conceive in the light of our latter day knowledge of a purgative being given by any doctor if he recognizes an acute surgical abdomen as mentioned by the essayist, regardless of where that inflammation may be located. He certainly has failed to take into consideration the sequence of symptoms which are first pain, second nausea and vomiting, third fever, fourth muscular rigidity, and, if you have the facilities of making a blood count, a leukocytosis.

Those symptoms are invariably present in any acute inflammatory condition within the abdomen. The localization of the tenderness and rigidity would indicate the organ most probably involved. If one bears in mind these diagnostic features I think he would refrain from administering a purgative in the presence of such symptoms.

Granting that we have a perforation, I believe we will all agree heartily with the essayist's conclusion, that the safety of that patient demands immediate operation. I grant you that we occasionally see an exception to the statement that all such patients will die without operation just as we see exceptions to every other statement that may be made in medicine



or surgery. The peculiarities of the individual, his type of resistance, the character and virulence of the infecting organism, present a complex condition or situation in which the outcome cannot be absolutely foretold. I am sure that each one of us in operating upon patients with a history of a previous peritonitis have found diseased appendices giving definite evidence of a previous perforation from which the patient has recovered.

As to whether or not the appendix should be removed, in our work we have interpreted the term ruptured or perforated appendix to mean one in which the infection is already outside of the appendix. Then we have one of two conditions, either the peritonitis is localized or we have a general or diffuse suppurative peritonitis. In the event it is localized, with very few exceptions the appendix itself can be removed. As long as the infection has been walled off in one portion of the abdomen, by exercising care, gentleness in operative procedure, walling off the infected area with coffer-dams, in the vast majority of instances such appendices can be removed. If, however, the perforation has occurred before such protecting adhesions occur and we are dealing with a diffuse suppurative peritonitis, it oftentimes becomes then a question of judgment as to whether or not the appendix should be sought for. Once the appendix is perforated and a diffuse suppurative peritonitis is present, the appendix has done all the harm it can possibly do in that individual for that one time and its removal will not in any way, shape, form or fashion improve the patient's chances for getting over that particular attack. Surely if accessible, if easily reached, if it can be removed without adding particular time to the operation or trauma to the patient, it should be done as a matter of protection to him in the future, granted that he gets over this particular attack.

Drainage in such cases is always imperative. In the walled off cases I don't think it makes much difference how you drain them if in the course of the operation you have not contaminated the remainder of the peritoneum. In the diffuse suppurative type of peritonitis, I think drainage is a most important matter, that it should be placed in the most dependent portion of the abdomen, that it should consist of a perforated rubber tube, preferably with a selvage wick running down through the center which may be removed at the end of twenty-four hours. I think the essayist mentioned administration of fluids by bowel, I add to the saline, soda and glucose, and in the event the patient is unable to retain and absorb this by bowel give it subcutaneously by the drop method so that they take up one, two or three liters in the first twenty-four hours of the attack.

The mortality from these cases will be of necessity depend upon the time at which the operation is undertaken as compared with the time of perforation, in other words, the opportunity which the infection has had of becoming disseminated throughout the entire abdomen and producing secondary changes. Not infrequently we see the diffuse peritonitis taken care of and subsequent secondary abscesses develop in other portions of the abdomen, either down in the rectal pouch or up under the diaphragm where they give us a great deal of trouble, and, present quite a high rate of mortality.

**E. L. Henderson, Louisville:** There is very little that can be added in the management of these cases to what Dr. Gaither has advocated in his paper, but I think in this day of preventive medicine there should be an intensive campaign on preventive surgery in cases of appendicitis.

It has been my misfortune within the past ten days to have four cases of ruptured appendicitis. All four cases had been purged before they came under my observation. Two of them, however, had been purged before any physician was called. As we were about to operate one of these cases, one of the doctors in the operating room asked me if I thought that purgatives killed as many people as opiates, and he said that he did not see why the medical profession did not take up the question of purgatives in acute pain in the belly as they have taken up the question of opiates. I think if this were done those 10,000 cases of ruptured appendices that are lost in the United States in a year would be diminished very materially. I think if the medical profession would pay more attention to the prevention of ruptured appendices, we would be much better off.

**Guy Grigsby, Louisville:** The question of appendicitis is an old one. The getting well of these cases I think is materially aided by the individual surgeon. I don't feel that any outline or stated method of treatment is ever indicated. Each case should be treated as an individual case.

In a definite case of ruptured appendix with evidence of walling off which will take place in the great majority of cases, I feel that a procedure which is not at all original with me but which I have employed for the last few years has materially aided me in saving cases that I feel before that time I would have lost. That is in making the incision well to the outside of the rectus muscle, if necessary cutting the internal oblique muscle, and by this procedure you will find that by turning the cecum toward the mid line, in practically all cases the appendix easily comes into view, and that the walling off of adhesions of small intestines and omentum

will entirely protect your general peritoneal cavity and in the most instances it is not even necessary to put in sponges to protect it. You can easily get the appendix and remove it without the least contamination of the general peritoneal cavity. I am sure if you surgeons will employ that or try it out in one or two instances, you will be delighted with the ease and with the certainty with which the appendix can be removed and with the feeling that you have not contaminated the general cavity. You will find these patients will recover very much more rapidly and their convalescence will be very much more easy than if you had started from even a right rectus incision and gone from the inside through your non-contaminated area and then got the appendix out through that way, but always with the subsequent soiling of your clean abdomen.

In regard to Dr. Gaither's statement on using linen, we always purse string our appendices where it is possible. It occasionally happens that there is a gangrenous area around the base of the appendix that precludes putting in a purse string. I have in two instances had persistent sinuses where later I took out my linen sutures anywhere from six weeks to two months, and that has convinced me of the incorrect use of linen in these cases. It has very little advantage over chromic catgut in introducing your purse-string suture.

As to the post-operative care, experience has taught me a very valuable lesson in the use of repeated gastric lavage, many cases that are desperately ill with a dilated stomach, it frequently will terminate the case favorably where if you allow the accumulated fluid in the stomach to remain, unquestionably many of them will die.

It is an established fact that in these cases all the fluid that you can get into them will be to their advantage, intravenously, under the skin, by proctocolysis, and by the stomach as soon as it will retain the fluids.

The judicious use of morphin of course is indicated. I do not believe, however, to absolutely knock these patients out with morphin is indicated or is desirable.

As to drainage, in diffuse peritonitis where you have a great deal of pus in the general cavity, drainage of course is very necessary. As a rule, however, the less drainage you use the better off your patient will be. They have enough to take care of without inserting more foreign material into the abdomen to cause that much more embarrassment to the peritoneum.

**J. W. Price, Louisville:** There is just one point about this subject that occurred to me might be of interest to a great many. That is the matter of keeping these drains draining

after the operation is over. Sometimes around 1910 or '11, Dr. Wright of London brought out a solution of three per cent salt solution and one percent sodium citrate, and recommended this solution because it prevented the coagulation of the lymph. I began using this solution for compresses and found it chemically satisfactory. During the Great War, Wright simplified his solution to a four per cent salt solution, leaving out the sodium citrate. Even before that I had resorted to the higher salt percentage because on one occasion I had a patient in a colored hospital and couldn't get anything but salt, so I made my four per cent salt solution there and found that it did everything that the combination of the citrate and the chlorid did.

I am sure that all of you who dress these cases have found that the compresses were wet on the outside and as you got down toward the drains if they were gauze or if there had been a cofferdam put in, part of the drain around the wound was dry with the secretions, the secretions had coagulated, and when you loosened them you found a certain amount of pus well up into your wound. In other words, your drain had drained efficiently up to a certain point, and then it had acted as a plug. By using this hypertonic salt solution, the lymph is prevented from coagulating, your drains remain soft and pliable, and the drains perform their function throughout. When you remove your top dressings you find they are moist, and as you get on down to the inner drains or the coffer-dam or the wick, you find that is soft and is not blocked up, and when you remove it there is no pus following it, as had been the case where simply a normal saline had been used for keeping the compresses wet.

I simply mention that because I know in going around through hospitals it is not generally used, although a great many use it at that, but I would like for those who have not tried it to try it.

**Guy Grigsby:** Do you wet your wick of gauze when you put in your rubber drain?

**J. W. Price:** Yes, I wet that when I put it in and keep it wet and keep a wet compress on top of it with the hypertonic salt solution of four per cent. I instruct the nurse to soak that dressing every two hours. You can use this dressing not only for the appendicitis cases but for any extensive infection. The British used it in their war wounds, and the purpose of it is to simply keep the drain draining.

**Horace Rivers, Paducah:** Dr. Gaither has covered this subject entirely and we can't disagree with him on many things. He mentions a small incision. Gentlemen, I believe it is a mistake to ever make a small incision in your acute ap-



pendiceal condition. You want room enough to see what you are doing so you can do it.

Regarding the drainage, it has been our procedure in the last year or so to not drain as many cases as we did before. I have forgotten the name of the man that has been doing some original work in Chicago along that line, but he has reported in the last few months a large series of cases in which he has washed out the abdomen, or the contents of it, with ether and left some of the ether in and claims that it does set up all exudate there that protects the general cavity.

We cannot agree with his post-operative treatment. I believe the thing to do is to keep those patients absolutely and thoroughly under the use of an opiate. By so doing you prevent the peristaltic action, and the absorption of the bacterial poison, and that with the use of your saline solution, your glucose solution and your soda solution, any or all of them, you prevent the dehydration of the tissue.

In the past six months I have had four cases of appendicitis due to focal infections, none of which have been twenty-four hours duration. They had a furunculosis somewhere on the body, and the predominating organism in the appendix was the same as we got out of this furunculosis. My own child is one of those cases. He had a Hordeolum. He developed symptoms of appendicitis and in twelve hours this appendix was in a gangrenous condition. The predominating organism was the same in every one of these cases.

**Kolmer Modification of Wassermann Test.**—The results of tests on 1,014 serums examined in parallel series by a routine method of complement fixation and by the Kolmer modification of the Wassermann reaction are recorded by Kilduffe and the findings tabulated and discussed. The Kolmer method is favored because the results with this method are in close agreement with the clinical findings in a high percentage of cases. It is a strictly quantitative method and as such better adapted to the study of treated syphilis. It appears to be eminently worthy to supersede and supplant the methods now in common use. It presents by far the most acceptable technic yet proposed for adoption as a standard method and as such should be subjected to extensive, exhaustive and impartial trial and study. In early primary syphilis the Kolmer modification gives earlier and stronger results than routine methods.

Palmer and Gibbs also favored the Kolmer quantitative complement fixation test for syphilis.

## BIRTH INJURIES TO THE NEW BORN.\*

By J. O. JENKINS, Newport.

Discussing a case of complicated labor, almost fifty years ago, with an old time country doctor in Pendleton County, the matter of procedure was touched upon.

"When yer whiskey and red pepper tea ain't no good," said the old warrior, "ner yer blasted rye ain't wuth a dam, yo'll natcherly have ter use yer pullikins ef yo 'speat ter git the young un. An' when yo git them set long side the haid, an kin make 'em stiek, jest sit on a good plank cheer an' put yer feet agin the bed rail an' rahr back like Tuck Thomas, an' keep her a comin' like hell-a-bustin' twell yo git her."

The object of this lecture, lived; a half nit-wit, with a depressed temporal bone, and with a partially paralyzed left arm.

Such emergencies meet us today, as they have done in the past, and quickly convert the romance of obstetries into a fateful tragedy.

Modern technic, however, has doubtless lessened the number of birth injuries, and a more careful use of the forceps, together with skillful manual manipulation of the advancing fetus, have reduced the total of the more serious ones. Nevertheless, enough remains to make us apprehensive as to the ultimate results of any injury to the child during its extraction.

It must not be lost sight of, that frailty of peculiarity of structural fetal organization may be occasionally an inviting factor to damage in some instances.

Injuries inflicted through the medium of the forceps, probably are more often apparent than those produced by manual manipulation.

The head is more often the recipient of injury than other parts of the body, by reason of its position as relates to the mother's anatomy, and its more resisting structure. Force applied externally especially if it be of a compressing character, is very likely to act more or less injuriously on the delicate contents of the skull.

Lacerations of the overlying scalp are not so disastrous as are the fractures or depressions of bone, though the site of, and extent of these latter must needs determine their gravity.

Another item of intense interest is, in the event of the application of the forceps, when the tip of the blade has impinged upon the fossa immediately beneath the ear in such a way, as to crush the nerve trunk, vascular

\*Read before the Campbell-Kenton County Medical Society.

and gland structures there or in the vicinity. If the force applied has been severe or long continued, one of two things usually takes place; the death of the child, or a paralysis of the corresponding side of the face and of the arm. Should the nerve cylinder be severed, regeneration of the nerve seldom takes place and the paralysis is permanent, modified later perhaps, through accessory nerve stimulation.

Where the eye has been destroyed by the end of the forceps blade, or the hard palate crushed, or the lower jaw fractured by the same means, a very serious disability is created provided always, the child is alive and continues to live. Usually it is dead.

Expertness of this type in the use of the forceps does not invite a deep respect for the knowledge and skill of the attending accoucheur.

Fractures of the bones of the neck, clavicle, scapula, shoulder and ribs may occur during the use of the forceps, either as a result of their position on the part, to the traction employed or by manual manipulation. The spinal vertebra may be injured with consequent trauma to the cord and sectional paralysis result, and the axis likewise damaged or dislocated within its capsule. A short X-ray exposure will determine the diagnosis if the clinical signs are not clear, and steps readily taken for the proper treatment of the lesion along surgical lines.

It is conceivable that many injuries of a transitory or more permanent nature may be inflicted on the delicate tissues of the neck.

Subluxation of the cervical vertebrae or stretching of the intravertebral ligaments, crushing of nerve trunks, or loosening the sternomastoid muscle from its attachment or rupturing it are the more serious.

Attention is called to these injuries by writers on obstetrics, and it is well to be alert in an examination of the new-born that nothing is amiss with it.

In extraction of the head in breech cases, it is quite possible to overstretch the vertebral ligaments of the entire spine by a too vigorous traction. Also that a dislocation of the axis on rupture of the sternocleidomuscle by too great a reflexion at the pubic arch as the child's body is brought over the mother's belly may be produced.

The eye and tactile sense of the fingers, together with ordinary knowledge and skill should determine the diagnosis and suggest the treatment to be followed.

The abdominal viscera may be injured. More often this results from too forcible compression of the gastric circle by the operator's hand grasping the part in his efforts to revive a moribund child. The

damage is likely to result in hemorrhages from the stomach, liver, intestine or kidneys.

The umbilical cord may be torn from its abdominal union in a normal labor by reason of its shortness and intense uterine action, or as a complication of manipulative extraction.

It may, also, be severed anywhere in its length from the causes just mentioned, or from frailty of its structure. Occasionally, the fetal anus in a breech case has been mistaken for an undilated uterine os, and dilatation attempted or made with disastrous results, and in the female child, in the destruction of the perineum and a more or less extensive rupture of the rectovaginal septum.

Fractures of the extremities are not very rare and are usually due to attempts at correcting the position of the part as it relates to the head or trunk of the child. They are generally produced in the endeavor to replace or extract an arm or leg. Making traction with the finger or fillet in the axilla or groin is sometimes responsible for the accident. It should be remembered that the epiphysis of the bone at birth is not yet a part of the shaft, and either may be readily separated from the other and an apparent fracture or dislocation produced.

In the treatment of any of these injuries to the bone structures complete rest in suitable fixed position should be the rule; one which may also be well followed in those lesions of ligament and softer tissue.

Lacerations must be cared for carefully that infection or unsightly constrictions and cicatrices be avoided. In the use of antiseptics, only the mildest should be chosen.

Strong solutions are obnoxious to the immature tissues and are prone to promote sloughing. Normal salt solution, peroxide of hydrogen or very dilute permanganate of potash will give satisfactory results.

Cosmetic and clinical perfection; preservation or restoration of function and somatic vigor should be the aim. When this end has fairly been attained, the obstetrician may congratulate himself on his success and be well satisfied.

---

**Progressive Myopathies Due to Hereditary Syphilis.**—Jeanselme presents the first clinically well studied case of primary dystrophy of muscles of the Leyden-Moebius type (affection of spinal cord excluded by electric reactions) in a young man with a weak positive Wassermann reaction. His father is a syphilitic. Jeanselme assumes that syphilis can influence the muscular system like other organs, and does not discuss the possibility of a coincidence.



## DIAGNOSIS AND TREATMENT OF SOME OF THE MORE COMMON LESIONS IN THE PROSTATIC URETHRA.\*

By EDWARD R. PALMER, Louisville.

It is remarkable how profound an influence comparatively insignificant lesions in the prostatic portion of the urethra may have upon the entire organism. But when we consider that most of the nerve endings of the sexual centers as well as those of micturition are located in this region, and remember that the activity of no other centers has a more widespread effect, we can readily understand why anything interfering with their normal functioning must necessarily give rise to more or less general disturbances.

As a consequence the most prominent symptoms due to such lesions are often vague, in no way indicating the area involved; as for instance, nervousness, insomnia, indigestion, disturbances of vision, headache, lassitude, hypochondriasis or the so-called neurasthenia. On account of their indefiniteness these lesions are frequently overlooked and seldom treated. By careful questioning, however, we are able to elicit some symptoms pointing to the genito-urinary organs in practically all these cases.

The most common of these symptoms are pain, or rather a dull aching, in the lumbar, sacral, suprapubic or perineal region radiating downward along the thighs or into the testicles or glans penis; a feeling that the act of micturition is incomplete, slight dribbling of urine following it; burning or itching sensation in the perineal region and rectum.

Often sexual symptoms predominate, frequent nocturnal pollutions; blood-stained seminal fluid; dull aching in the testicles and perineum following intercourse; premature or "hair-trigger" ejaculations; diminution or even complete absence of pleasurable sensations during the orgasm; finally, partial and rarely absolute loss of the power of erection.

Examination of the urine may be negative, but usually there are some indications of trouble. Shreds, or as is most often the case, small white granular masses, pus plugs from the ducts of diseased follicles. A muco-purulent morning drop is often found, or merely a "gluing together" of the meatus; after defecation a thick, sticky, whitish substance is noted. In most cases microscopic examination of the urine shows pus cells; in some red blood corpuscles; in a very few spermatozoa.

A correct diagnosis can only be made by inspection, and in the opinion of the essayist this is best accomplished with Buerger's direct vision water dilating cysto-urethroscope. The advantages of this instrument are: (1) the entire circumference can be inspected at once, and lesions on the roof or sides detected as easily as on the floor; (2) it is an ideal instrument for intra-urethral electrolysis or fulguration, on account of the direct view of the lesions and the end of the electrode and the close working distance.

In order for you to understand the description of the lesions I am going to call to your attention, it will be well to at first describe the normal appearance of this region as viewed through the instrument.

To bring the anterior wall of roof into view the proximal end of the instrument is pressed downward between the thighs a little below the horizontal plane; as the cystoscope is withdrawn from the bladder in this position the sphincter vesicae will soon be seen gradually closing over the end of the tube. We are then in the supra-montane region and a most beautiful picture is presented to view. The appearance is of an obliquely truncated funnel, the back wall or floor of which is thrown into four to six radiating folds so that it looks very much like a lady's fan, the handle being at the sphincter vesicae, the expanded part just behind the verumontanum. The roof and side walls form a characteristic crescentic fold which Luys compares to a folded soldier's blanket. Here, as you will recall, are openings of many prostatic follicles as well as the glands of Albarran.

As we now slowly withdraw the tube one is reminded of the scenic panorama from the rear of an observation car, as the verumontanum gradually comes into view. For now we see why it is so-called: it looks like Mount Vesuvius, the utricule being the crater of the volcano. Close inspection will reveal the orifices of the ejaculatory ducts, while by turning the end of the tube from side to side in the surrounding valleys, i. e., the lateral prostatic sulci, will be noted the orifices of the prostatic follicles.

Still further withdrawal shows the verumontanum gradually fading into the distance until the closure of the external sphincter over the end of the cystoscope tells us we have passed outward into the bulb.

The first pathological condition to be considered is one that is not always due to gonorrhea or other inflammatory disease, i. e., hypertrophy of the verumontanum. This may result from anything that causes a prolonged congestion of this organ. During the sexual act and the preliminaries thereunto,

\*Read before Urological Section of Kentucky State Medical Association, Crab Orchard, September, 1923.

its tissues—like those of the penis—become engorged with blood through a physiological congestion. Any abnormality in the sexual act which interferes with normal detergescence tends to cause, through prolonged congestion, a permanent dilatation of the blood vessels resulting in congestive hypertrophy. So we find this condition following masturbation, coitus reservatus, coitus interruptus, frequent sexual excitement without completion of the act, excessive or insufficient intercourse.

Changes in the chemical composition of the urine may be a contributing cause, such as excessive acidity or alkalinity, and the constant presence of crystals of calcium oxalate or uric acid.

Finally, diseased conditions of the seminal vesicles and anterior rectal wall. When viewed through the cystoscope it has much the appearance of a chronically inflamed, sub-involuted cervix uteri. It is deep red in color, bleeding at the slightest touch, and is at times so large as to completely fill the end of the cystoscopic tube (No. 25 French). The lips of utricule are flabby, the ejaculatory ducts are gaping open, from which at times the seminal fluid can be seen oozing.

Mild cases of this nature respond to systematic massage, cold steel sounds, and instillation of silver nitrate. Often, however, we meet with cases of long-standing, due to chronic masturbation or other long-continued irregularities in the sexual act, in which more drastic means must be resorted to, such as far-pushed dilatation with the prostatic dilator, painting the veru with tincture of iodine, circular electrolysis with the prostatic electrode and electrolysis of the utricule and adjacent portions of the ejaculatory ducts with Bugbee's electrode.

The next conditions to be considered are the result of gonorrhea. When the gonococcus gains a foothold in the male urethra, the pathological process is the same throughout the entire channel; but the ultimate results vary according to the region involved because of the difference in anatomic structure. So we find quite a distinction between the lesions of chronic urethritis in the anterior, membranous and prostatic portions. In each instance, however, the underlying pathology is the same, i. e., an infiltration by small round cells of the mucosa and submucosa with exfoliation of the epithelium. These cells have a tendency to undergo transformation into connective tissue, and it is according to the amount of such transformation and consequent contraction or narrowing of the caliber of the urethra that Oberlander has

classified the varieties of chronic urethritis into the first, second and third degrees.

I cannot take time to enter into the differences of these variations, and will only briefly say that the third degree which represents the true stricture is rarely encountered in the prostatic urethra.

The most common form here is infiltration of the first degree. In this there is no appreciable resistance to the passage of instruments. The channel seems to be easily dilated, there having been but little fibrous tissue formed. But though little resistance is encountered, the instrument on being withdrawn is seen to be covered with blood.

The cystoscopic picture shows that the characteristic bolster-like fold of the roof and sides is no longer present, the mucous membrane now bulging into the end of the tube in large, irregular, globular masses, looking much like hemorrhoids. It is deep red in color and from being denuded of its epithelium looks like raw beef. Scattered over its surface are fine bleeding granulations.

The verumontanum is swollen and edematous, often completely filling the tube, and offering quite an obstruction to the introduction of the instrument. The utricule and ejaculatory ducts are frequently hidden from view by masses of granulation tissue. Around its base in the prostatic fossa and lateral sulci the mouths of the follicles become stenosed through development of fibrous tissue. This leads to a condition of bulbous edema which Goldschmidt compares to frog spawn.

Treatment is first sounds and instillation of silver nitrate; then massage and dilatation; next cauterization of the verumontanum with twenty per cent of silver nitrate; and finally numerous electrolytic punctures of the veru and diseased prostatic follicles.

Hard infiltration of the second degree, while not so common as in the anterior urethra, is still frequently encountered and is an extremely intractable condition to deal with. Now a great number of the infiltrated cells have changed into fibrous tissue, and as a result quite a decided resistance is encountered in passing instruments, but unless great force is used there is no bleeding. The mucous membrane has lost its elasticity. The crescentic bolster is replaced by a smooth open funnel the walls of which have a pale, dry, white cardboard appearance. The fan-shaped floor has also disappeared and instead of the urethra closing over the end of the tube, it remains gaping open even after the flow of water has stopped. The verumontanum is small, yellowish in color, a red inflammatory area surrounding the utricule.



This is all due to the formation of connective tissue which in extreme cases involves even the muscular coat and the internal sphincter vesicae, in which we have a fibrosis or contracture of the prostatic urethra and a median fibrous bar at the bladder neck. This latter condition often gives rise to symptoms of prostatism without the enlarged prostate. The prostate per rectum is either normal in size or small and hard. The urine is generally full of small, white, flaky pus plugs from the prostatic follicles, and the expressed prostatic secretion macroscopically is loaded with pus.

Treatment of this condition is very unsatisfactory, *restitutio ad integrum* being of course an impossibility. All we can hope to do is to partially restore the resiliency of the channel by causing absorption of the cells that have not been transformed into fibrous tissue. This calls for a long drawn out course of sounds, circular electrolysis, massage, instillations and prostatic dilatations.

We sometimes meet cases in which any attempt at instrumentation is followed by violent reaction, clouding of the urine, chills, fever, epididymitis,—an acute exacerbation of the chronic posterior urethritis. This occurs in those long-standing cases of contracture and fibrosis of the prostatic urethra and bladder neck in men beyond middle life.

Systematic massage, irrigations, instillations, mixed vaccines and hexamethylenamin internally relieve them of the distressing symptoms.

With prostatism from median bar formation I have had no personal experience. Bottini, Chetwood and Lays destroy them with galvano cautery. Young uses his prostatic punch. Some advocate prostatectomy.

The most interesting of all lesions here to me are the papillomata and mucous polyps. Papillomata are new growths from the papillae of the mucous membrane from which the epithelium has been exfoliated. They are usually the result of gonorrhea, but can be caused by any chronic irritation. They are similar in structure and appearance to ordinary venereal warts so frequently seen on the prepuce. The small ones are easily destroyed by the application of twenty per cent silver nitrate; the larger ones by the electrolytic needle.

Polyps, on the other hand, are much more resistant to treatment. These growths are generally believed to be due to chronic gonorrheal inflammation of the prostatic follicles and end sacs which results in an occlusion of the ducts. They have a striking resemblance to the adenoids so often found in the naso-pharynx. Histologically their structure

is adenoid, i. e., they are composed of areolar and glandular tissue covered by stratified epithelium. From the fact that they may exist for a long time with little or no signs or symptoms of their presence, I am inclined to believe that they are not always due to a pre-existing Neisserian infection; but, that having developed from some unknown cause, as in the case of naso-pharyngeal adenoids, their presence is not detected until infected by the gonococcus. This is followed by secondary infection with the other pus-forming micro-organisms, as a result of which a chronic urethritis and prostatitis develop which cannot be cured until these growths are destroyed. They can be seen in all stages of development, either single or as is usually the case, three to four. I have seen them so large and numerous as to almost completely block the channel.

The treatment I have employed in these cases is dilatation alternating with electrolytic punctures using 5 to 25 m. a., according to the size of the polyp.

#### REFERENCES

Chronic Urethritis: Keersmaecker and Verhoogen (Weiss), Wm. Wood & Co., 1901, Cystoscopy and Urethroscopy: Lays (Wolbarst), C. V. Mosby & Co., 1918.

#### CASE REPORT OF UNUSUAL DISLOCATION.\*

By W. M. LINSComb, Lexington.

Man, age 20, University student, injured while playing football, backward dislocation of fibula, left leg. Failure of reduction immediately after accident. I called Dr. W. H. McLean. Patient was given ether, and reduction effected with knee flexed to relax the biceps. Limb then placed in Plaster Paris, leg extended. Just how much the tendon of biceps femoris, which obtains insertion in head of fibula, plays in producing this is debatable.

This case is mentioned more perhaps because of rarity than for any other reason. Vaughan and Burnham state regarding these: "They are so rare that their pathology and treatment are not clearly understood."

I am very glad to report that the treatment in this case was eminently successful and that the patient regained complete use of the injured limb. We experienced some difficulty in securing the reduction, even under ether anaesthesia.

\*Read before the Fayette County Medical Society.

## EPISCLERITIS FROM FOCAL INFECTION. CASE REPORT.\*

By ADOLPH O. PFINGST, Louisville.

I have recently observed a case that illustrates cause and effect better than anything I have ever seen, and for that reason it may be worthy of record.

The patient, a woman aged fifty-eight, had always been in good health except for rather frequently recurring attacks of acute tonsillitis. She had no history of eye disease until last July. She then complained of pain on moving her eyes laterally, such as we frequently see in individuals with rheumatism. At that time she responded very readily to the salicylates.

I did not see her again until three weeks ago. She then presented with a typical case of episcleritis involving both eyes. There was the unmistakable swelling over the region of the external rectus muscle of each eye which resembled urticaria on the skin. The swollen areas were exquisitely tender. Along with that she had photophobia and considerable pain on moving the eyes laterally.

Every possibility was considered in trying to arrive at the cause of the infection in this case under the belief that she had focal infection. Her teeth were examined and one or two extracted. Her blood Wassermann was negative. Local and constitutional treatment was applied for three weeks, but nothing seemed to be effective and her condition remained the same. I found her tonsils large and spongy with several distended crypts filled with material having a foul odor, although she was fifty-eight years old I advised removal of her tonsils. The operation was performed four days ago. When I went to see her two days after the tonsils were removed, there was not a sign to indicate disease of the eye, the sclera were as white as if they never had been inflamed and the subjective symptoms referable to the eye had subsided.

I have never seen the effect of focal infection illustrated as well as in this case. I do not know how to account for her improvement except by the tonsil operation.

## DISCUSSION

**I. A. Lederman, Louisville:** The case reported is interesting, especially the prompt response to removal of the local focus of infection. We have doubtless all had experiences of this kind during the last few years since we have recognized the connection between focal infection as

emanating from the mouth and the tonsils, also nasal disease, the accessory sinuses, etc., and the connection between these diseases and eye lesions of focal origin.

With the permission of Dr. Pfingst I would like to mention a curious experience I had in a case of choroiditis in which there was a successive focus of infection, first the teeth, then the tonsils. The patient was a young girl in good health. Physical and laboratory examinations revealed nothing except one abscessed tooth. Tonsillectomy had been performed in one of the smaller cities of Kentucky a few years before leaving tonsillar stumps which looked perfectly clean. The diseased tooth was removed on my advice. The next day the patient came to the office and said she could see better already. Examination showed not much change in appearance of the eye. I advised her to go home and return in three weeks which she did at which time her choroiditis had entirely disappeared. Careful search failed to reveal a single evidence of the choroidal lesion.

A curious part of this case was that one year later this girl returned with a recrudescence of the choroiditis in the same eye. Examination was again negative except that the stumps of the tonsils had undergone some change in that they now looked septic, they had become spongy and the larger crypts were filled with cheesy material. I removed the tonsillar stumps under local anesthesia and the next day she said she had experienced exactly the same degree of relief as when her abscessed tooth was removed. Within a few weeks the choroiditis had again entirely disappeared.

This girl case to my office a few days ago merely to show that she was perfectly well. I mention this case in connection with the one reported by Dr. Pfingst to illustrate the relationship between focal infection and ocular manifestations.

**S. G. Dabney, Louisville:** When infection from a local focus has already spread through the system it would not appear that removal of the original focus would result in such speedy improvement, as has been stated by the previous speakers; yet I have had under observation a remarkable case of this character where the effect was almost instantaneous. A woman came to me complaining of pain in her eyes; she had an episcleritis, the sclera being bluish red, and tender in appearance. Examination showed that she had several diseased teeth. I sent her to a local dentist who extracted the teeth which seemed to be involved in disease. I saw her two days later and was astounded to see her eye nearly well. I wondered if it could merely be a coincidence. I would not have

\*Clinical report before the Louisville Medico-Chirurgical Society.



thought that removal of the focus of infection would produce such speedy results. May be it does, but this is a question I would like to hear discussed at greater length.

In the case reported by Dr. Pfingst and those described by Dr. Lederman, in connection with my own experience as related, seem to be rather striking and contradict my previous opinion that recovery in cases of infection which had already spread through the system affecting a distant organ would require a much longer time.

**J. Rowan Morrison, Louisville:** Relative to the question of immediate relief of general symptoms after removal of a local focus of infection: Three years before the war a young man came to me with marked myositis and some beginning arthritis. Pain was quite severe and his temperature was 103 to 104 degrees F. He had been examined by a competent dentist who said he had no bad teeth. He grew worse and worse. Roentgen-ray examination was made by Dr. B. W. Bayless who said there was one diseased tooth which should be removed. Blood count was made several times and showed leucocytes 20,000. Under the diagnosis of apical abscess made by Dr. Bayless the tooth was extracted. The next day the leucocyte count was 10,000 and the man was free from pain although there was still some discomfort on pressure over the muscles. The following day the leucocyte count was normal and he had no more pain. He went home in a few days and had no further trouble except a little stiffness. This is a typical illustration of the promptness with which some of the patients recover. The leucocyte count responded just readily as the pain.

**S. G. Dabney, Louisville:** Last July a patient who had been under the care of Dr. Morrison came to see me about some trouble in her joints. She was expecting to leave the next day for Michigan and wanted me to examine her tonsils. This I did and found them diseased. I asked her to postpone her trip a few days and I would remove her tonsils. This was done the following day and she left for Michigan four or five days later. When she returned she told me that she was perfectly well. Improvement in this case was gradual recovery not being complete until the expiration of three or four weeks or longer. I saw her not long ago and she has had no further trouble. This seems to me the usual course of focal infections.

**Leon K. Baldauf, Louisville:** My experience has been that not all patients with focal infection recover so promptly, in fact some of them never become entirely well. The explanation it seems to me, in those who do not get well, is that the organisms have been carried through the circulation and deposited in the tissue that

is affected. I should think most of the patients who recover within a few days do so because we are dealing with a purely local infection and resulting toxemia. Doubtless all of us have seen severe toxic symptoms disappear quickly following the injection of diphtheria antitoxin. These symptoms are the result of severe toxemia and disappear within a few hours. Patients who recover within a few hours are the subjects of toxemia not septicemia and removal of the local focus of infection relieves the entire situation. The reason some severe cases of arthritis persist after we believe we have eliminated the local cause of the disease is that the organisms have been carried to the joints and lodged there. Even if the focus of infection is removed under such circumstances the organisms are in the blood stream and it is like locking the stable after the horse has already been stolen.

**Adolph O. Pfingst, Louisville, (closing):** There is little to be said in closing the discussion. All of us have doubtless been impressed with the rapidity of recovery or at least disappearance of symptoms after the removal of a local focus of infection. It is rather difficult to conceive how this can happen, as rapidly after removal of the focus of infection as it did in the case reported even if the condition present in the eye is only one of toxemia.

## BLADDER SYMPTOMS, DIAGNOSIS AND TREATMENT.\*

By C. C. HOWARD, Glasgow.

What I have to say will be in the line of a general surgeon and will not go into detail as a specialist in this work would do.

The bladder is often the signal station for the whole genito-urinary tract; but many times we fail to get the message it is broadcasting. Take, for instance, frequency of urination—does this take place at night or day, does exercise influence it, is the urine bloody, does the stream suddenly stop, is the flow slow to start, does it dribble. Ninety per cent of all bladder pathology that gives definite symptoms is located around or near the vesical neck. I will enumerate a few of the cardinal symptoms of the most important disease:

### ENLARGED PROSTATE,

Frequency of urination at night.

Slow to start, and slow to stop.

Often pus.

Age, fifty and past.

Rectal examination positive, often.

Cystoscopic should be made occasionally.

Cystoscopic shows lobes enlarged.

\*Read before the Barren County Medical Society.

## STONE,

Frequency, often stops suddenly.

Hematuria and pus.

Any age.

X-Ray examination positive.

cystoscopic positive.

## TUMOR,

Frequent urination both day and night.

Blood and pus.

Most often past forty.

Cystoscopy shows tumor

## DIVERTICULUM,

Frequent urination.

Loaded with pus which does not clear up with irrigation.

Cystoscopic, Post X-Ray with Sodium Bromide solution positive.

## TUBERCULOSIS,

Frequency and Painful.

Pus and Blood and T. B. Bacillus in urine.

Chronicity.

Uleer. Cystoscope, catheterize ureters.

Kidney always infected.

Chills and fever are common with any of these conditions when infection is added. Always exclude stricture of the urethra by passing sound. Many an illness is cured when an old stricture is well dilated.

*Enlarged Prostate.* Only one approved method—complete removal early. Either suprapubic or perineal. Do the one you can do successfully. Don't bother your brain trying to learn every new method. Two-stage removal often necessary.

*Stone.* Suprapubic cystotomy under local anesthesia. The man trained to use the Lithotrite can use it.

*Malignancy. Radium.* Suprapubic cystotomy, insert Radium needles into tumor. Also treat through urethra with radium needles in end of catheter or cystoscope; and through vagina or rectum. Will give some relief. Do not expect a cure.

*Papilloma.* Fulguration and Radium.

*Tuberculosis.* Remove the infected kidney.

**Umbilical Colic in Children.**—Timmer compares the conflicting publications on this subject, but is convinced of the reality of a nervous and recurring form of pains in the umbilical region which have no connection with the appendix, helminths, enteritis, tuberculous glands or purpura. The attacks of pain are brief, the child seems normal in the intervals, and the abdomen seems normal except for a little tenderness at certain symmetrical points or on the median line.

## QUINIDIN IN THE TREATMENT OF PERMANENT AURICULAR FIBRILLATION.\*

By EMMET F. HORINE, Louisville.

In this brief consideration of the use of quinidin sulphate in the treatment of permanent auricular fibrillation no attempt will be made to review the literature. It will be sufficient to mention that Walter Frey in 1918, following a clue from Wenckebach, studied the effects of various cinchona derivatives and found that quinidin was the most efficient in restoring normal rhythm in auricular fibrillation.

Since Frey's announcement, quinidin has been used by many other workers whose reports indicate that restoration of normal rhythm was obtained in a little over half the cases. In the majority of instances restoration of normal rhythm has been of short duration lasting from a few hours to nine months. From my study of the literature and from personal experience I feel that this failure to obtain more lasting effects has been partly the result of improper selection of the cases. The administration of such a drug which may be considered as largely a cardiac depressant, with poisonous properties at times, is fraught with considerable danger in improperly selected cases. Further the spectacular effect obtained when auricular fibrillation reverts to a normal mechanism by the use of quinidin is not always followed by clinical improvement. In auricular fibrillation the auricles do not actually contract and as a result clots are known to frequently form within them. Now, when the normal mechanism is restored and the auricles really begin to contract again portions of these clots may be set free to find lodgment in the brain or elsewhere with perhaps serious if not fatal consequences. Therefore, I cannot help but feel that quinidin should not be given except after careful study of the individual patient from every angle.

A review of the literature will, I believe, reveal the fact that patients whose etiological diagnosis is "rheumatic heart disease" or who have markedly enlarged hearts show little favorable response to quinidin. Even if the normal mechanism is restored in such cases early reversion to fibrillation occurs. Patients exhibiting marked decompensation are also unsuitable subjects. A history of previous embolism would certainly contraindicate the administration of quinidin.

\*Read before the Jefferson County Medical Society, November 1, 1923.

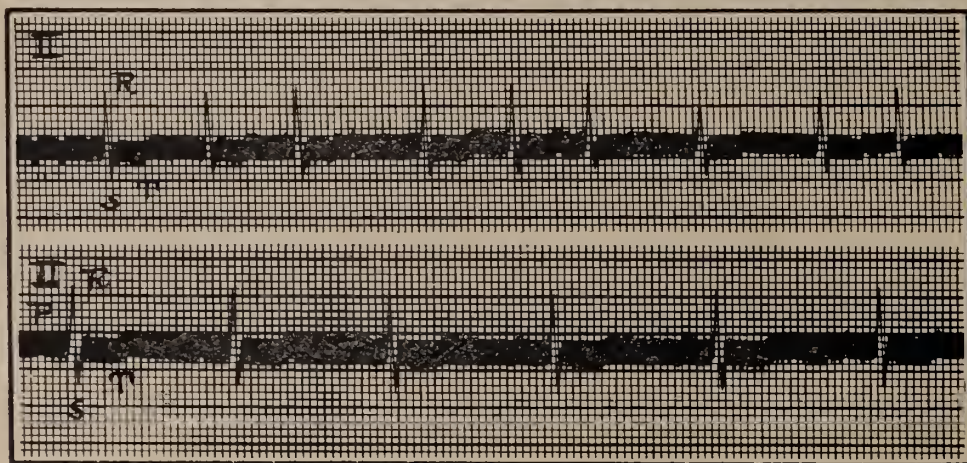


A long previous duration of the fibrillation has been observed by some authors to indicate that reversion to normal rhythm need not be expected except in a small percentage of the cases. Other workers seem to feel that the length of time the auricles have been fibrillating is no index of possible response. In the three cases herewith reported it will be seen that permanent fibrillation had existed probably for periods of three years, six months, and in the third case for an unknown period, though the only infection mentioned was a severe influenza five years previously.

Quinidin should not be given for the first time without a preliminary test dose as recommended by Frey. Further the patient should be in bed during the course of the treatment. Quinidin was used by the earlier workers in every type of case of auricular fibrillation. Now that we are more familiar with its action and have learned the type

clinical improvement to make such restoration seem unnecessary.

In these three cases certain factors forced me to the conclusion that quinidin was indicated. In the first place an attempt was made to fully digitalize each of these patients. Toxic effects were encountered as evidenced by marked nausea and vomiting in case one when an attempt was made to maintain the ventricular rate at 80 with digitalis. In case two, decided toxic effects also were noticed prior to any real therapeutic effect. In the third, a potent digitalis preparation was given to the limit and its effect observed by frequent electrocardiograms which showed early inversion of the "T" wave. Despite this, the ventricular rate was only slightly reduced and a pulse deficit of 20 continued. It will thus be seen that though digitalis was thoroughly tried in all three cases its effects were valueless. To my mind the first important point in selecting quinidin therapy



Case 1. The upper record shows auricular fibrillation. Note the absence of the "P" wave and the totally irregularly spaced ventricular complexes. The lower record was obtained after restoration of sinus rhythm by quinidin. The horizontal lines are measuring ones being a millimeter apart, the vertical lines are "time lines" and are  $1/25$  of a second apart. These and all the other records are standardized so that one millivolt equals one centimeter.

of case likely to be benefitted greater care can and should be exercised in selecting the cases. I believe that quinidin surely should not be used routinely in permanent auricular fibrillation. In my opinion those patients who are refractory to digitalis but who are in fairly good general condition are logical cases for a trial of quinidin.

During the past year I have seen thirty-four cases of auricular fibrillation. Of this group only three were regarded as being suitable cases for quinidin therapy. All of the others responded nicely to digitalis medication, not with restoration of normal rhythm except in one instance, but with sufficient

is the failure of the digitalis group to act satisfactorily.

Case 1. Diagnosis: (1) Exophthalmic goiter; (2) cardiac arrhythmia, auricular fibrillation; (3) myocardial insufficiency. Female, aged 50, native of Switzerland was first examined on April 3, 1923. The personal history is irrelevant except that she has had an enlarged thyroid for the past thirty years. She remembers to have always been extremely nervous but has been otherwise well until five years ago when her feet began to swell. Under treatment, the nature of which she does not know, the oedema disappeared. She had no further trou-

ble until three years ago when following a mild influenzal attack, the feet and lower limbs were markedly swollen. At this time she began treatment because of shortness of breath and very irregular heart action but with little change in the oedema and in her general condition since then. She now complains of shortness of breath after the slightest exertion.

My examination revealed a slight tough visible enlargement of the thyroid, the right lobe somewhat larger than the left. Bilateral exophthalmos was present as also a fine tremor of the hands. Cyanosis was present with gross oedema of both lower limbs. No heart murmurs were audible. The ventricular rate was totally irregular at 108 with a radial rate of 92. Fluoroscopically the heart was seen to be moderately enlarged. The urine was highly colored, showed a faint trace of albumin but no casts. Electrocardiograms were made which confirmed the clinical diagnosis of auricular fibrillation.

Absolute rest in bed was advised and because of previous digitalis therapy she was placed on only twenty minim doses of tincture of digitalis every four hours. Within four days the ventricular rate had dropped to 88 but without improvement in the general condition and with nausea and vomiting beginning without previous loss of appetite. Digitalis was withheld for two days and then she was placed on one grain doses of powdered digitalis purpurea three times daily which maintained the ventricular rate at 80 with a radial of 76 but with only slight general improvement though the nausea was less pronounced. Powdered digitalis lutea was substituted for the purpurea and milk of magnesia was used freely as a laxative with the hope that the nausea would disappear. Even with this change nausea continued to prove troublesome and after ten days use of the lutea it was discontinued. A single intravenous injection of strophanthin, gr. 1-200, was now given which resulted in a lowering of the irregular ventricular rate to 60 and mental confusion lasting for twenty-four hours. It was considered unwise to attempt to obtain results from the digitalis group for a longer period and quinidin was considered despite the fact that marked myocardial insufficiency was present. Three days were allowed to elapse before a trial dose of five grains of quinidin sulphate was given, the totally irregular ventricular rate of 60 having been maintained. On the following day five grains were given in the morning and five at noon. The quinidin is continued in such doses for three more days when, after a total amount of forty-five

grains had been given, the radial and ventricular rates became perfectly regular at 60. A daily dosage of ten grains of quinidin was maintained with decided improvement in her general condition and a continuation of the regular rhythm. She was kept in bed several days longer and then permitted to be up a gradually increasing interval each day. Improvement continued with marked lessening of the oedema though it did not entirely disappear. She left the hospital on May 12th and was able to report at my office for an electrocardiogram which revealed sino-auricular rhythm.

The subsequent history of this patient is interesting in that, despite the daily rationing of ten grains of quinidin sulphate, she relapsed into fibrillation on the forty-second day. She fibrillated for a few days and then became normal again only to revert to fibrillation after about a month. She was again put to bed and the quinidin doubled but without restoration of normal rhythm. It was not deemed wise to force the quinidin especially since she seemed to be getting along fairly well at the time even though fibrillating. The daily dose was reduced to ten grains and she was permitted to again be up in her room. An electrocardiogram was made on November 27, 1923 which showed fibrillation to be present.

Case 2. Diagnosis: (1) Arteriosclerosis; (2) chronic nephritis; (3) cardiac arrhythmia, auricular fibrillation; (4) myocardial insufficiency.

Female, aged 51, first examined on May 17, 1923. Had measles, pertussis and varicella as a child. Seven years ago albumin was discovered in the urine and she was under the care of a physician for over a year. Since then has felt very well until one year ago when she became quite nervous. During the past six months the nervousness has become extreme and she constantly notices irregular and rapid heart action. She is short of breath on slight exertion and both lower limbs have been swollen.

Her peripheral arteries show definite infiltration. The heart action was tumultuous and totally irregular. The ventricular rate was 156 with a radial rate of 120 both totally irregular. The maximal impulse was in the fifth interspace, 11 cm., to the left of the midsternal line. The left border was 12 cm. to the left of the mid-sternal line and the right border was 3 cm. to the right. A blowing systolic murmur was audible at the maximal impulse transmitted laterally to the left. Her blood-pressure was approximately 184-112 mm. Hg. The urine showed a heavy



trace of albumin with five or six granular casts to each field.

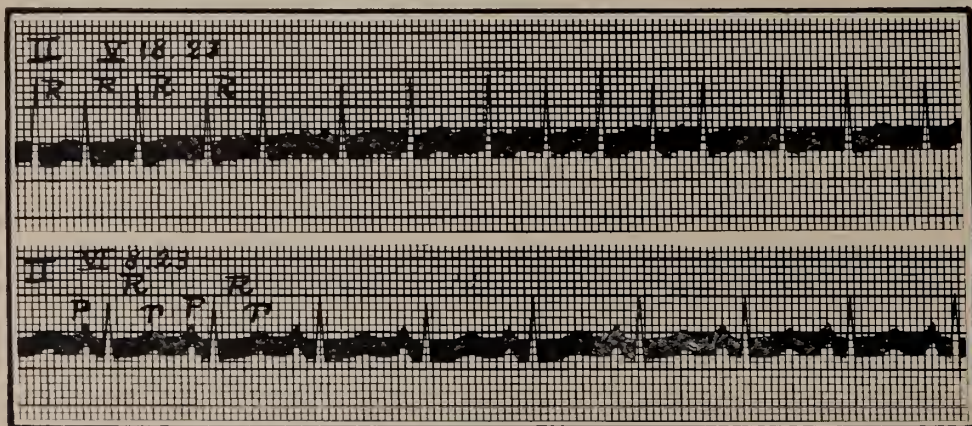
Her weight, exclusive of the oedema was approximately 120 pounds. Thirty minim doses of the tincture of digitalis were ordered every four hours and absolute rest in bed advised. Two days later the ventricular rate was 150 and the radial 120 both totally irregular. Troublesome nausea and vomiting began at this time necessitating a discontinuance of all medicine by mouth. After two days, by which time the vomiting had ceased a trial dose of five grains of quinidin sulphate was given without untoward effects. This dose was increased by five grains each day when, on the sixth day after 105 grains had been given, the ventricular rate became perfectly regular at 100 with a radial rate of 100. The quinidin was reduced by five grains each day until a dose of ten grains daily was reached. This dosage has been maintained since then with

termine the exact condition present.

His heart was very slightly enlarged as determined by percussion and verified by fluoroscopic examination. No thrills were present nor could any murmurs be heard. The standing ventricular rate was 140 and the radial 80; the recumbent ventricular rate was 108 and the radial 80; all rates being totally irregular. After 100 hops on one foot the ventricular rate was 208 and extremely irregular; after two minutes the rate was 148 and still irregular. Slight dyspnoea was present after the exercise.

Electrocardiograms were made which showed, in all three leads, an entire absence of the "P" wave. In lead II and to a greater degree in lead III fine fibrillary waves were noticed having a rate approximately 600 per minute. An occasional right or left ventricular premature contraction was seen.

This was an extremely rare and interesting



Case 2. The upper record was made on May 18, 1923 and shows totally irregular ventricular action. The lower record was made on June 8, 1923.

continuation of normal rhythm. When she returned home the systolic murmur was just audible over a limited area at the maximal impulse. Her general condition had markedly improved, the dyspnoea and oedema both having disappeared. She is still presenting normal rhythm.

Case 3. Etiological diagnosis: Influenza. Diagnosis: Cardiac arrhythmia, auricular fibrillation.

Male, aged 32, a city salesman by occupation, first examined on May 22, 1923. Had mumps, measles and varicella as a child. Remembers no other illness except influenza in 1918 when he was quite ill being in bed for ten days. Afterward he made a slow but good recovery. Has had no symptoms whatever relative to his heart. He had just been rejected for life insurance because of irregular heart action and he desired to de-

termine the exact condition present. His heart was very slightly enlarged as determined by percussion and verified by fluoroscopic examination. No thrills were present nor could any murmurs be heard. The standing ventricular rate was 140 and the radial 80; the recumbent ventricular rate was 108 and the radial 80; all rates being totally irregular. After 100 hops on one foot the ventricular rate was 208 and extremely irregular; after two minutes the rate was 148 and still irregular. Slight dyspnoea was present after the exercise.

Electrocardiograms were made which showed, in all three leads, an entire absence of the "P" wave. In lead II and to a greater degree in lead III fine fibrillary waves were noticed having a rate approximately 600 per minute. An occasional right or left ventricular premature contraction was seen. This was an extremely rare and interesting case in that auricular fibrillation was present without any evidence of valvular or myocardial damage and with no history or signs of failure of compensation. No doubt the myocardium would have failed in time for it is inconceivable that the ventricles could hold up for a prolonged period when driven in so merciless a fashion by such multiple stimuli from above.

His weight was 148 pounds and he was given twenty one grain capsules of powdered digitalis purpurea with the directions that he take five that afternoon, ten the following day and the remaining five on the next morning. Electrocardiograms were run twenty-four hours later which showed a decrease in ventricular rate from approximately 108 to 88 with the auricular oscillations increased to approximately 640 as determined by sternal leads. He was put to bed and given an

average of one dram and a half of a potent tincture of digitalis daily for four days but without any change in rate or rhythm. The digitalis was discontinued and the following day a trial dose of five grains of quinidin sulphate administered. His ventricular rate now dropped within twenty-four hours to 64 with a radial rate of 60 both absolutely irregular. The quinidin was increased five grains daily until on the afternoon of the fourth day, after fifty grains had been taken, he experienced slight pain in the precordial region which came and went every ten or fifteen minutes for over an hour. Afterward his ventricular rate was 80 and absolutely regular. The quinidin was gradually reduced until he was taking five grains daily

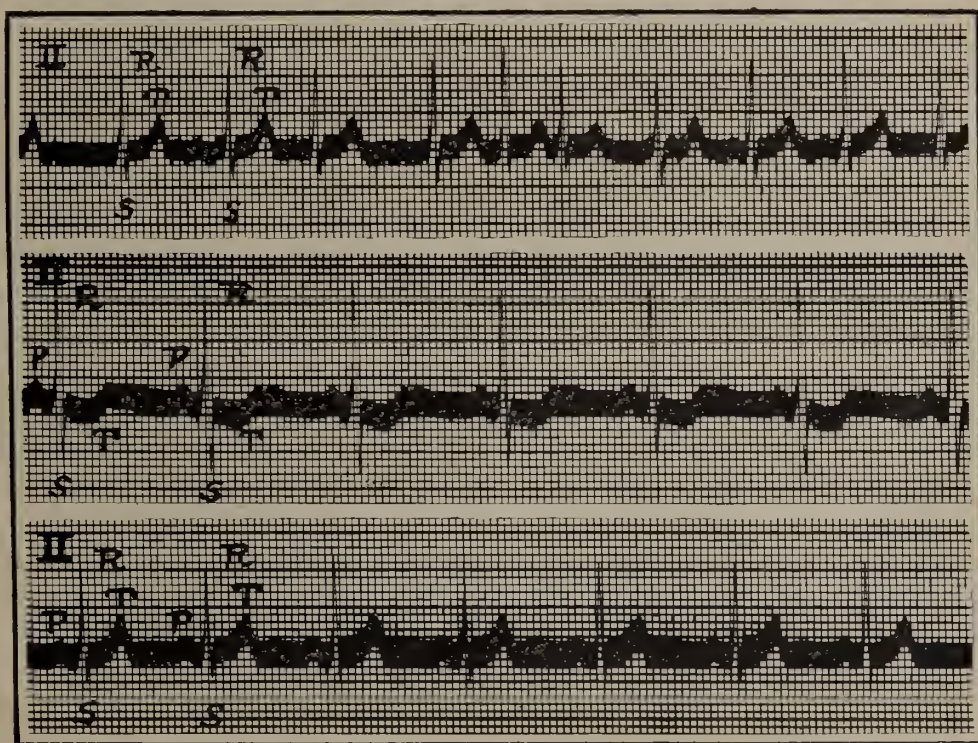
#### SUMMARY

Digitalis has been used so long and with such excellent results that it still should be used first in cases of permanent auricular fibrillation requiring treatment.

If, after careful trial, digitalis produces untoward symptoms or is ineffectual quinidin may be employed in properly selected cases.

Only three out of thirty-four cases of permanent auricular fibrillation required quinidin.

In each of the three cases of auricular fibrillation treated with quinidin restoration of normal rhythm resulted.



Case 3. The upper record shows auricular fibrillation. The middle record shows sinus rhythm with inverted "T". The lower record was obtained five and a half months later and shows the "T" again positive with continuation of normal rhythm.

and this dosage was continued for one week after he was allowed out of bed. Three weeks after return of normal rhythm his exercise tolerance was as follows: erect rate 84, recumbent rate 80; after 50 hops on one foot, 112 and after two minutes rest, 84, all rates being perfectly regular. He has taken no medicine since the end of his first week out of bed and has continued in his occupation since then. Electrocardiograms were run on November 26, 1923 which show normal sinus rhythm at 84.

#### DISCUSSION

R. Hayes Davis, Louisville: I enjoyed Dr. Horine's case reports very much; he has covered the subject most completely. There is one point that it might be well to emphasize, i. e., in a case of auricular fibrillation it is almost always necessary to continue digitalis throughout the remainder of the patient's life. This is one type of heart case that, in the vast majority of instances, cannot get along without digitalis, and after digitalis is once begun even



if the patient shows great improvement and compensation is restored, it is a mistake to discontinue digitalis. It has to be given in dosage that will keep the heart rate within reasonable limits, and after this dosage has been established it should be continued indefinitely.

I fully agree with Dr. Horine that it is a great mistake to use quinidin in any of these cases until after digitalis has been thoroughly tried. Digitalis is by far the most reliable remedy. Dr. Horine emphasized this by stating that of thirty-four cases he found only three were suitable for quinidin therapy. In well selected cases quinidin may accomplish good results, but digitalis is the drug of preference in the vast majority of cases of auricular fibrillation.

**Virgil E. Simpson, Louisville:** Several very practical points may be deducted from the cases that were selected for report by the essayist. First as to the nature of the phenomena; as one may understand from the electrocardiographic tracings in auricular fibrillation there is no contraction of the auricle as a whole, that is, systole, partial or complete does not occur; the walls remain in diastole and there is no transmission of regular impulses from the auricle to the ventricle. There are, instead, multiple, feeble and localized contractions originating independent of each throughout the auricular mass and out of this delirium frequently but irregularly will impulses escape to inaugurate ventricular contractions.

Second, an interesting clinical feature of auricular fibrillation is the irregularity of ventricular contraction. The rate may be 60 or it may be 160 but whatever the rate the contractions are irregular. The irregularity depends upon the varying strength of the bizarre auricular impulses while the rate depends on the condition of the conducting paths.

Another practical feature to be deducted is the multiplicity of causative factors. While the majority of cases of auricular fibrillation occur with mitral stenosis yet it is true that there may be no discernible valvular defect present. Infections often seem to induce it, hyperthyroidism is thought to be a determining factor, it occurs at almost any age, is more frequent in men, arterial disease is frequently coexistent but myocarditis would seem to be the outstanding pathology.

Another point of importance is that auricular fibrillation is not necessarily fatal, at least not immediately so. Patients have these attacks and recover sometimes without treatment, sometimes with treatment and sometimes in spite of treatment. But paroxysmal fibrillation is not the rule; they generally become permanent arrhythmias. If ventricular fibrillation occurs

death ensues for it is impossible for the ventricle to fibrillate for any considerable period and life be maintained.

Another feature from the standpoint of diagnostic acumen at the bedside in cases with mitral stenosis is the change in time relation of the presystolic murmur. This murmur may disappear altogether but usually is replaced by a diastolic one heard over the apex. This may be confused as an aortic regurgitant murmur.

It is evident from what has been said that there are two things which must be considered in planning the treatment. First there is the antecedent usually present. There may be myocardial changes giving rise to dyspnea, orthopnea, venous congestion, etc., there may be endocardial changes, arterial degenerations, renal disease or thyrotoxicosis.

Second there is the fibrillation, a functional manifestation, essentially chronic and usually a terminal malady. What can be done for it?

It is true, as stated by the essayist, that not withstanding advances made in diagnosis of this cardiac disorder digitalis remains the sheet anchor in treatment. Its effects are usually so definite that there occurs little necessity for trial of any other agent. It lessens the rapid ventricular contractions by impeding the passage of the vagabond impulses from the auricle. Its failure may often be attributed to improper methods of administration particularly as to dosage. Quinidin may be considered, in connection with cardiac disorders, as a symptomatic remedy only. Its action is largely that of cinchona which is a protoplasmic poison always. In the relatively few cases in which its use may be warranted it should be used with a clear conception of its limitations. It should be continued over only short periods of administration. I believe it should be discontinued when the fibrillary manifestation has ceased and some other treatment instituted to prevent its reappearance if possible. Deaths have apparently been caused by its use and one should remember that it is a two edged weapon.

**R. Alexander Bate, Louisville:** I do not believe we will thoroughly understand the causes of the various cardiac irregularities, fibrillations, etc., until endocrinology shall have been written into the scheme of general medicine. Everything points to this no matter whether we consider cardiac activity due to muscle or nerve influences. I believe the internal secretions control cardiac action. We know that the pulse beat can be detected before the nerves have grown into the heart. This is one of the most common illustrations. Again we know that the heart may continue to beat for some time after removal from the body. This shows that the heart's connection with the central

nervous system is not essential to rhythmical contractions. We also know that various cardiac manifestations may follow blocking of the coronary arteries with lycopodium, and from the action of acids, electrical experimentations and other things applied in this region.

The first case reported by Dr. Horine was clearly one of exophthalmic goiter in which there was excessive activity of the thyroid gland. The thyroid secretion increases heart action; this is one of the manifestations of over action of the thyroid principle, the hormone, whatever one may choose to call it. Excessive production of the thyroid secretion may even cause auricular fibrillation. However, I do not believe every case of irregular heart action is due entirely to the thyroid substances; the suprarenal deficiencies are most likely contributing factors. The posterior pituitary gland perhaps controls both the thyroid and suprarenals and brings them back to the normal status; and that is why such excellent results have followed administration of pituitary substance in some of the cardiac arrhythmias.

In his report Dr. Horine mentioned quinidin which as we all know is a cinchona preparation. There are several other synthetic drugs which belong to the same group. I do not believe in administering synthetic preparations in these circumstances; the same effect is not secured as when the natural product is given. It has been amply demonstrated by Crile and others that the cinchona preparations have the effect of blocking nerve impulses; so in certain nerve disturbances good results may be secured from these preparations; in other cases no effect may be produced.

We know that the nerves act in indicating to the heart of the necessity of supplying the various body structures with blood; the nerves are therefore responsible for maintenance of normal circulation throughout the organism.

As to the treatment of cardiac irregularities: I am free to confess that much more satisfactory results have been secured from administration of the glandular preparations than from digitalis. When digitalis is begun it should be withdrawn very carefully; it is usually necessary to continue it indefinitely. The cardiac mechanism should be carefully watched in changing from one drug to another to note the effect produced, otherwise harm may be done.

I believe the effect of cinchona in the cases reported was probably due to its action on the thyroid gland or in blocking the cardiac impulses.

**Emmet F. Horine, Louisville, (Closing):** I am glad Dr. Davis emphasized the necessity of continuing digitalis indefinitely in most cases of auricular fibrillation. This and other import-

ant phases of the subject were not dealt with in my brief report although their importance is fully realized.

In cases of auricular fibrillation the customary procedure is to thoroughly digitalize the patient and then reduce the dose gradually to an amount just sufficient to maintain the ventricular rate between seventy and eighty. The amount of the tincture of digitalis necessary to thus stabilize the ventricular rate varies from ten to perhaps twenty minims three times daily. The patient may take the drug for many years without any trouble whatever. I have under observation at the present time a man who has been taking digitalis daily for over four years and though he continues to fibrillate still the digitalis holds the rate within normal limits and he is able to go to his office daily and attend to business.

The statement was made here tonight that multiple contractions originating independently of each other in the auricular tissue is what occurs in auricular fibrillation. Over ten years ago this was the conception of the condition but it is not in accord with our present knowledge and, therefore, I am sure the members of this Society would not be willing for it to pass without comment. As first suggested by Mines and later elaborated by Lewis the multiple fibrillary movements originate from a single source, namely, a self-perpetuating ring of excitation in the auricles. From this single "circuit" ring as a point of origin centrifugal wavelets spread out over the whole of the auricle in rather definite and orderly paths but at irregular rates. The auricular rates as shown by sternal leads vary from 350 up to 1,000 or more per minute. As you know, auricular impulses reach the ventricles only by way of the bundle of His. In auricular fibrillation, the bundle is literally showered with impulses, and in turn transmits many of these to the ventricles. The ventricles contract in response to these stimuli but since many of these stimuli reach the ventricles during refractory periods and still others are too weak to "fire" the ventricles, an absolutely irregular ventricular rhythm results. In untreated cases the ventricular rate is extremely variable but it is interesting to note that the maximal rate of ventricular response is only slightly over two hundred per minute.

However, the important point in auricular fibrillation is that a variable number of the ventricular contractions occur so early in diastole that the ventricles have not had time to fill and the resulting ventricular output is too small to even open the aortic cusps and thus produce a radial beat. It is for this reason that the radial rate is not necessarily an index of how often the ventricles are contracting. From this it is quite easy to understand why an inefficient



circulation is present in the condition. Digitalis works its wonders by blocking many of the excitation waves from the auricles and with consequent ventricular slowing and satisfactory filling a more efficient circulation results.

As yet we do not know the place of quinidin in heart therapy. From personal experience and from my observation of the work of others I feel that it has an important position. With care in selecting the cases, with proper precautions and careful observation of its effects I believe it can be safely depended upon to produce desired results.

### PYELITIS IN INFANCY. CASE REPORT.\*

By JAMES W. BRUCE, Louisville.

Pyelitis is one of the most commonly undiagnosed causes of fever in childhood. The reason it is so frequently unrecognized is easy to see, as it is usually not associated with any localizing signs or symptoms. Most cases of pyelitis show fever and this is all. The temperature in severe cases may be of the continued type and very high for days—104 degrees to 106 degrees F. Sometimes it is not so high and sometimes it runs an afebrile course. However, the latter is not very common and is usually associated with periodic exacerbations lasting several days at a time.

The symptoms in severe cases are such as would be expected from fever. The child is irritable. Does not want to eat. Frequently and unfortunately does not want to drink very much. The bowels are often loose and the stools contain some mucus. Diarrhea is often a troublesome complication and occurred in obstinate form in both the cases here-in reported. The onset is usually sudden and there may be convulsions. After 2 or 3 days of high fever the child lies in a stupid semi-comatose state, refusing food and drink. Symptoms referable to the bladder, such as frequent and painful irritation, are not often present.

The duration is anywhere from 2 or 3 days to several weeks, depending largely on the vigor with which treatment is pushed. The prognosis is usually good. The worst complication is nephritis, when this occurs, the outcome is usually fatal.

The diagnosis is easy if the urine is examined and impossible if not. Physical examination is absolutely negative. Many cases are diagnosed intestinal indigestion on account of the loose mucous stools.

The urine in pyelitis is characteristic—it is usually highly acid and cloudy. Microscopic examination of the uncentrifuged specimen shows many pus cells and bacteria. The infecting organisms are nearly always the colon bacilli, and these appear as sluggishly motile rods. There is apt to be an increase in leucocytes in any febrile urine and it is not always easy to say that pyelitis is or is not present after a single examination of the urine. However, 12 or more leucocytes in an uncentrifuged specimen in the high power field of the microscope is usually taken as good evidence of pyelitis. As to how the invading bacteria gain access to the pelvis of the kidney it is not possible to say in the light of present knowledge. However, the fact that pyelitis is quite common in little girls and almost unknown in little boys is a strong argument in favor of infection ascending thru the urinary tract rather than coming thru the blood or lymph channels.

Treatment consists of forced fluids and drugs. The first is much the most important and is very difficult to accomplish. Children often do not like water and will not like it in large quantities. This is particularly true in infancy at the time when pyelitis is most common. Water can be seasoned with saccharin and fruit juices—orange, lemon, or grape. However, excessive drinking of fruit juices is apt to cause loose bowels which may be hard to check. After 2 or 3 days of high fever a baby will almost refuse to take any fluid at all. I have seen a mother struggle with her baby for 24 hours and only get down a few ounces. In severe cases we have to resort to artificial methods of giving fluids. Protoclisis is rarely successful in children less than 4 or 5 years old. Hypodermoclysis and intraperitoneal injections are painful and difficult to give in private homes. The nasal drip is by far the most efficient and practical method of giving large amounts of fluid in these cases. At first mothers balk at the thought of passing a tube thru the babies nose and leaving it there 24 hours, but after they see the results obtained, they become enthusiastic about it and it is frequently difficult to induce them to discontinue its use. The technique of the nasal-drip is simple. A No. 10-12 soft rubber catheter is passed thru the nose into the stomach and is anchored to the face with adhesive straps. A Murphy drip is then attached and regulated as desired. Much faster trips can be used than by protoclisis. In the cases below 60-65 drops per minute or 1 pint in 2 hours was administered without difficulty. At feeding time, milk can be poured through the tube. Precautions must

\*Read before the Jefferson County Medical Society.

be taken to prevent infants from pulling the catheter out of the nose. This is best done by paste-board cuffs that extend from the arm pits down over the hands beyond the finger tips. At first the children resist and fight, but after a short time they accept the nasal tube philosophically and do not seem to mind it. Of course, the tube is easier to handle in very young infants.

As to drugs in pyelitis, I have had little success with urotropin and have practically abandoned it. Also the method of changing the reaction of the urine from acid to alkaline and vice-versa every 4 or 5 days has not been successful in my hands in children. The straight alkaline treatment has given much the best results. Any alkali can be used as long as enough is given to render the urine definitely alkaline. Sodium citrate, potassium acetate, and sodium bicarbonate are the best and all these together work better than any one singly. Alkalies and forced fluid should be continued for some time after pus has disappeared from the urine as pyelitis is very apt to recur.

The following cases are reported:

Case 1. V. J., female, aged 3 years, first seen June 22, 1923. Family history unimportant. Birth and development normal. No contagious diseases except whooping cough, from which she had made a good recovery. General health good.

Present illness: 48 hours before the doctor was called, child's mother noticed it had fever. Fever had continued. No cough, vomiting, or loose bowels. Child apparently not in pain. It was up and playing around when the doctor arrived. Physical examination showed a fairly well nourished child. Temperature 102 degrees F. Examination of chest, throat, abdomen and ear drums showed no abnormality. A tentative diagnosis of intestinal intoxication was made and a carthartie and fever mixture prescribed.

Next day June 23rd temperature was 104 degrees F. Physical examination entirely negative. Urine this date was somewhat cloudy, acid, and uncentrifuged specimen showed increased numbers of leucocytes, but not enough to make a definite diagnosis of pyelitis. However, child was put on alkalies and forced fluids.

June 24th—urine was absolutely clear and contained no pus. This urinalysis is worthy of comment as sometimes even in severe cases of pyelitis the pus gets "blocked up" and does not appear in the urine. For this reason several examinations should be made in obscure cases of fever before the possibility of pyelitis is excluded.

June 25th—urine cloudy and full of pus

and sluggishly motile bacilli. A definite diagnosis of pyelitis was made.

The difficulty now arose of making the child drink water. For 3 days we used every expedient to tempt her to take water, but only very small amounts were consumed. The temperature was 104 degrees to 106 degrees F.

June 27th—Condition getting serious. Stupid. Refused all food and took little water. Nasal drip started—65 drops per minute—using 1 per cent soda bicarbonate. 1 quart of solution was administered in 4 hours and next morning temperature was normal. When the fever declined, we discontinued the drip. However, the next day, June 20th, it rose again and the drip was restarted and continued several days.

July 1st—temperature normal and remained so thereafter. Urine was cloudy and continued pus and bacteria for 1 week after temperature became normal.

July 14th—urine clear—no pus or bacteria.

Case 2. L. H., female, age 11 months. First seen June 21, 1923. Family history unimportant. Birth and development normal. No contagious diseases. Still breast fed and also gets cereals and cow's milk. General health good.

Present illness: Mother says for past 5 days baby has been fretful. Castor oil had been given with good results. No cough.

Physical examination: Fairly nourished baby. Temperature 104 degrees F. Examination of chest, throat, abdomen, and ear drums revealed nothing abnormal.

Urine—Cloudy, acid, uncentrifuged specimen shows many pus cells and sluggishly motil bacilli.

Diagnosis of pyelitis was made and baby put on alkalies and forced fluid by mouth. For 3 days the mother struggled to make the baby take water but succeeded only in getting her to take a very small amount.

June 24th—Nasal drip started with 1 per cent soda bicarbonate. Child very toxic—lay in stupor.

June 26th—Temperature normal and never rose again. Urine, however, continued to be cloudy and contained pus and bacteria for 4 weeks. Nasal drip was continued in this case for 3 days after temperature was normal.

#### CONCLUSIONS

1. In every case of continued fever without physical signs in female infants, the strong probability of pyelitis should be considered until disproved by repeated urine examinations.



2. Alkalies and large quantities of water are the best treatment for pyelitis.

3. The nasal drip is the most efficient and practical method of administering large quantities of water to infants.

## RETINITIS DUE TO TOXEMIA OF PREGNANCY.\*

By SAMUEL G. DABNEY, Louisville.

On October 22, 1921, I was asked by the attending obstetrician, who has since died, to examine Mrs. X. I was told that she had retinitis of pregnancy, and was still practically blind in both eyes though it was fifteen days since the birth of the baby. Both the obstetrician and the patient seemed to have understood from an oculist who had already seen the case and advised induction of labor that he considered the prognosis bad as to vision. Knowing the large experience of this oculist, and respecting his opinion I feel quite sure that their anxiety made them take a gloomier view of the case than he actually predicted.

On visiting the patient that afternoon I found her sitting up and apparently in good condition except for the loss of sight. She told me that she was 32 years old; that this was her second child, and that in the eighth month of pregnancy, noticing that her sight was blurred, she had come to Louisville and placed herself under the care of an obstetrician. He had called in an oculist who advised that labor be induced. Besides the impaired vision the only other symptoms were slight vomiting and badly swollen feet.

Labor was induced three weeks before full term. Her sight had not become greatly impaired up to this time. Two days after labor she became practically blind in both eyes and had continued so ever since—now fifteen days.

Examination shows the vision of the right eye to be counting fingers at about ten feet, and of the left eye about four feet. The ophthalmoscope showed extensive neuro-retinitis with hemorrhages and exudate in the macular region of each eye. Notwithstanding the unusual feature of the loss of vision becoming worse after childbirth I expressed the opinion that she would recover useful, but not probably perfect sight. She returned to her home in this State with a letter from the obstetrician to her physician outlining the treatment for her nephritis.

Within the last month she has consulted me again. Her vision in the right eye is

now more than 20-20, and in the left eye it is fully 20-20. The ophthalmoscopic appearance is normal—a transformation that would seem almost incredible to one who had not observed similar cases. She tells me that it was not until several months after childbirth that she noticed improvement in sight, and it was about six months before she was able to read. She did not know what the condition of her kidneys was at present, but has been under the care of her physician.

The interesting features in this case are the comparatively slight disturbance, except for the impaired sight, which came on only three weeks before full term and which was only of moderate severity; the almost complete blindness coming on several days after childbirth; the very marked disease of the nerve and retina, and finally restoration of perfect sight in each eye.

Omitting certain rare conditions such as external affections of the eye, disturbances of the field of vision and detachment of the retina, the ocular complications of pregnancy are in order of their frequency retinitis, uraemic amblyopia (so-called), and affections of the optic nerve such as retro-bulbar neuritis without retinitis.

The retinitis is generally considered to be part of a toxemia which produces the nephritis and various other symptoms rather than to be caused by the albuminuria.

Posey and Hirst report a case of typical and severe retinitis, promptly cured by the induction of labor, in which the condition of the kidneys was normal. The disturbed vision may be the chief or only symptom as in the case above described or more frequently it may be accompanied by other symptoms of toxemia such as headache, vomiting, and perhaps convulsions. This retinitis is more common in the latter half of pregnancy.

The important question to be considered is the induction of labor. From the oculist's standpoint it is advised that this should be done promptly if the eye disease appears before the sixth month; in the later stages if the retinal affection is mild and not rapidly progressive full term may be awaited, but certainly the vision should be carefully measured frequently and repeated ophthalmoscopic examinations made.

I have seen several of these cases, and though they were in the seventh month or later it has seemed to me wise in each case to advise that labor be induced to save sight, as all were severe—with the induction of labor all recovered useful, but not all perfect vision.

\*Read before the Jefferson County Medical Society.

On two practical points a careful compilation of statistics would seem desirable as authorities differ.

1. Is the retinitis more common in primiparae or in women who have borne several children? Arnold Knapp and May both state it is more frequent in primiparae while Moore who has written the latest work on Medical Ophthalmoscopy states that it is more frequent in multiparae—fourteen out of nineteen cases occur in women who had borne five or more children.

2. Is there a tendency of the retinitis to recur in future pregnancies? Moore says there is not, but Arnold Knapp thinks there is.

In this affection the ophthalmoscope shows neuroretinitis hemorrhages and exudate, the picture varying very greatly in intensity; sometimes there are only a few hemorrhages here and there; sometimes an occasional white spot in the retina, and sometimes a violent inflammation of the optic nerve with the typical radiating white spots in the macular region.

In so-called uremic amblyopia there is rapid loss of vision generally going to complete or nearly complete blindness and lasting from a few hours to two or three days (Moore makes the surprising statement that it may last three weeks). This condition is nearly always attended with other marked symptoms such as violent headache, convulsions, coma and even hemiplegia; the ophthalmoscopic picture is normal. Prognosis as to vision is good. Treatment is in the hands of the obstetrician.

In retro-bulbar retinitis and atrophy of the nerve the ophthalmoscope at first shows little; later there is pallor of the disc, restricted fields and impaired though not usually lost sight. I have seen two such cases with useful vision months afterwards but inability to read.

## DISCUSSION

**I. A. Lederman, Louisville:** Dr. Dabney's report is so complete that it really amounts to a classic on the subject. We are intensely interested in these cases because of the points mentioned by Dr. Dabney. As he said in his closing remarks, the management of these cases is in the hands of the obstetrician but the ophthalmologist can be of great assistance. It has been his experience, and it has also been mine, that these cases show a marked tendency to partial recovery. I want to congratulate the doctor on getting perfectly normal vision in the case reported. I do not recall having seen a patient with retinitis due to the toxemia of pregnancy

who later had normal vision, but have seen a number of them where useful vision was obtained. The last case of the kind I saw was about a year ago; the patient was completely blind for two or three weeks; six months later her vision was 20-50. I have not seen her since then and do not know whether her vision has further improved or not.

It seems remarkable how such extensive retinal changes can be present at the time and then practically disappear. I do not know how explain that unless the condition is purely toxic in character without any radical changes in the retina, and added to this the fact that the cause of the underlying trouble being removed promptly the retina is given a chance to recover its integrity.

I recall one case in which this condition occurred with the birth of the first child. The patient developed severe neuroretinitis with hemorrhages. After the birth of the child the woman obtained useful vision. She became pregnant again and after the birth of her second child she became absolutely blind. I was told by a member of her family a year or two later that she had recovered no part of her vision. The ultimate ophthalmoscopic appearance was atrophy of the optic nerve with some distinct changes in the macular region.

There is only one other point I care to discuss, and that is to lay stress on the differentiation which Dr. Dabney mentioned between the so-called amaurosis of pregnancy and defective vision due to actual nephritis. Albuminuric amaurosis develops suddenly as a rule and within a short time disappears, at no time showing or leaving any retinal changes, and nearly always terminating in perfect recovery of vision. These cases are purely toxic in character and do not involve any radical changes about the eye.

Dr. Dabney mentioned one most unusual feature, that is recurrence of blindness after delivery of the child.

**Edward Speidel, Louisville:** Dr. Dabney has reported a rather unique case, and I am sure everyone interested in obstetrics will be glad to get the definite information he has given on the subject. One important point he has mentioned is that the appearance of the retina may be an indication for the induction of premature labor in the toxemia of pregnancy. My understanding has always been that retinitis albuminurica was always an absolute indication for the induction of labor, but it seems this is not true in some instances. I would like to know whether retinitis is an early or a late symptom of toxemia, and under what circumstances we should induce labor.

I recall one patient who had loss of vision



for about three months during her first pregnancy, but finally regained good sight. She then became pregnant the second time, and I endeavored to get her consent to the interruption of gestation at eight months, but this was refused although she had partial loss of vision. At eight and a half months she was delivered of a living child and later became totally blind. At last accounts she had not regained her vision.

**S. G. Dabney, (Closing):** In my report I made no suggestions as to treatment of the disease. Toxemia was undoubtedly responsible for the eye lesion. More than half the cases of this kind develop after six months pregnancy.

My experience is exactly like that of Dr. Lederman except that I have seen more than one patient obtain perfect sight particularly of one eye under the circumstances cited. In the case reported I thought the most interesting feature was increased loss of vision after birth of the child.

The most remarkable feature in these cases is the transformation of the retina. When I examined the patient who is the subject of my report the ophthalmoscope showed large hemorrhages into the retina, considerable exudate at the back of the retina, with vision practically gone, and yet within a few months she has regained perfect vision. The objective appearance seems almost incredible; the recovery of normal appearance of such extensive changes is remarkable.

---

**Deviation of Complement Test for Tuberculosis.**—Grumbach has been studying at the Pasteur Institute at Paris the reaction of fixation with Besredka's new antigen in diagnosis of tuberculosis. This test is proving valuable in revealing cases in which bacteriologic examination is still negative. A positive reaction often precedes all other manifestation of tuberculosis. The findings with the intradermal auto-urine test invariably coincided with those of the deviation of complement test.

---

**Viability of Spirochaeta Pallida.**—From the experiments made by Lacy and Haythorn it is evident that spirochetes kept in serum or moist tissue, either human or animal, may retain slight motility as long as three months or more. Complete drying is probably fatal to the *Spirochaeta pallida*, since each of our rabbits inoculated with dried spirochetes on scalpels, failed to develop syphilitic lesions, *Spirochaeta pallida* may, and in one case did, remain virulent in necropsy material for twenty-six hours or longer.

## GRANULOMA INGUINALE. CASE REPORT.\*

By WILLIAM J. YOUNG, Louisville.

The subject of granuloma-inguinale has received considerable attention during the last two years owing to the fact that such cases have been observed in different parts of the country. While it has heretofore been considered that the disease was limited to tropical regions, we now know that it may occur endemically in various cities or sections of the United States.

In past years we have seen many patients, with blood Wassermann either negative or positive, who had chronic serpiginous ulcers in the groin which did not respond to anti-syphilitic treatment. It is probable that all or at least some of these patients had granuloma. Certainly the local or internal syphilitic treatment used had very little effect upon the lesions.

During the last year there have been five patients in the Louisville City Hospital with lesions clinically diagnosed as granuloma inguinale, but not confirmed by microscopical examination of exudate. Recognition of the fact that the disease occurs in this country makes possible the treatment of a very distressing condition which has heretofore yielded to no method of management. Formerly such patients were classified as having venereal disease, the groin lesions being regarded merely as a complication, and were treated in the genitourinary and syphilitic department of the hospital.

Granuloma inguinale begins as a moist papule which ruptures and exudes purulent fluid. The lesion shows no tendency to heal and gradually becomes larger; the exudate forms a crust over the area involved. Beneath the crust the lesion assumes the appearance of exuberant granulation tissue of a flesh-red color. The exudate is scanty, mucoid in character, and upon being wiped away with gauze leaves a raw, bleeding surface.

The groin is the most frequent location of the disease, but the lesions may extend over the pubes or to the perineum and involve the folds of the buttocks and also the skin around the rectum. One of our patients had a ernsted sore at the corner of the mouth, the size of a silver dollar, suggesting auto-infection from the primary lesion which was in the groin. In females the labia majora and vulvo-perineal regions are the principal sites of the disease. And in looking backward over the history of patients with

---

\*Read before the Jefferson County Medical Society.

involvement in these regions, seen during the last four years. I can recall a number (with or without positive Wassermann) sent to our department of the city hospital who evidently belonged to this type clinically, and were treated with little or no benefit by intensive arsphenamin injections.

The lesions of granuloma inguinale are attended by very little pain. All the patients exhibit evidences of anemia. The Wassermann test is negative unless lues co-exists, and arsphenamin has practically no favorable action upon the lesions unless syphilis co-exist. All the cases I have seen were in negroes except the one which I shall report here.

The clinical diagnosis of granuloma inguinale is confirmed by demonstrating in the exudate the encapsulated bacilli first described by Donovan and called "Donovan bodies." Another means of confirmation is by the therapeutic test, that is the intravenous injection of tartar emetic solution. In our own cases we have unfortunately been unable to isolate the Donovan bodies. The patient whose case is reported herein was given the therapeutic test after negative bacteriologic findings.

The modern treatment of granuloma inguinale consists in the intravenous injection of one-per-cent-solution of tartar emetic (antimony and potassium tartrate) in normal saline or distilled water sterilized by filtration, beginning with 3 cc and increasing the quantity 2cc, every third day until the dose of 12 cc is reached. The only untoward symptoms which have been noted during treatment are occasional nausea and vomiting. The patient often experiences a "tingling sensation" in the lesion immediately after the injection, and there is some increase in the secretion for the next few days. Healing begins in the periphery and extends toward the center, the lesion becoming gradually smaller just as it formerly became larger. Emphasis is placed upon the point that the patient should be treated several weeks after apparent cure.

Case Reports: C. G., male, white, aged forty-eight, was admitted to hospital early in September of this year. Chief complaint: "sores around genitals." Family history: father died from intestinal tuberculosis; mother and four brothers living and well; one brother died from appendicitis and gall-bladder disease. Past history: patient had typhoid fever at the age of ten making a complete and uneventful recovery; also had the common diseases of childhood without complications. Habits: smokes and uses al-

cohol moderately. Body functions: cardio-respiratory system negative except occasional palpitation of heart; gastro-intestinal tract also negative except for constipation. Genito-urinary: patient denies ever having had sore on his penis or any urethral discharge.

About four years ago the man says he noticed a small "boil" on his right buttock which gradually became larger. Several days afterward he fell on his buttocks and ruptured the boil which he says contained purulent fluid. For two years the sore refused to heal, then it gradually and progressively began to spread at the periphery. When admitted to the hospital the lesion entirely surrounded the base of the scrotum and penis as will be more fully described later.

Physical examination on admission revealed nothing worthy of note except present complaint. The lesion which the patient states started from the ruptured boil on his right buttock gradually extended downward along the folds of buttock to both sides of the scrotum, along the inner surface of thighs for two and a half inches, over the inguinal regions,—especially the left,—and also the suprapubic region. It is a deep ulcerating type of lesion extending to the corium, of a reddish color, oozing sero-purulent fluid of every offensive odor. Around the periphery there is an overgrowth or "heaping up" as it were of soft tissue, resembling granulation tissue, with many small reddish elevations varying in size from a pin head to a split pea. At a few points the edges are slightly undermined, the granulating tissue overlaps the healthy skin margin, the center of the destructive lesion being smooth reddish-gray due to the purulent discharge bathing it. However, when the purulent fluid is wiped away there is noted a flesh-red color. In a few places within this field are found smooth whitish scars with irregular outlines. There is one such scar on right buttock and another on left near scrotum. These scars are not elevated.

LABORATORY FINDINGS: Smears negative for Donovan bodies. However, there were found some gram positive bacilli and gram positive cocci. Wassermann negative; urinalysis negative.

TREATMENT: Prior to entering hospital no therapy administered. Since in hospital patient has been given tartar emetic which is presumed to be a specific for granuloma inguinale.

METHOD OF PREPARING THE DRUGS: To 500 cc freshly distilled water add five grams of



tartar emetic and when dissolved filter through Berkefeld filter. To the filtrate add 5 cc concentrated Hcl to prevent precipitation. This makes a one-per-cent-solution of tartar emetic.

The first intravenous dose of 3 cc. tartar emetic solution was given September 6th. The patient had no reaction nor did he make any complaint. However, his temperature suddenly rose to 106 degrees F., but subsided within a few hours. Tartar emetic solution was given every third day, the quantity being increased 2cc. each injection until the dose reached 12 cc.

A note made September 30th states that there was much improvement in appearance of the lesions since the beginning of treatment. The ulceration around the anus was not nearly so wide, it was superficial in appearance, exudate serous in character; the lesion between anus and scrotum has become smaller and "wafer-like"; that portion extending from scrotum to thighs was cleaner, smoother; the "heaped up" edges not so marked; the elevations described were smaller; the lesion as a whole was much more superficial; and the offensive odor had disappeared.

The patient has improved very much and shows promise of recovery. I am especially indebted to Dr. H. L. Horantz for his untiring pains in the treatment of this case.

### DISCUSSION

**John K. Freeman, Louisville:** I wish Dr. Young would tell us in closing the discussion where the name "granuloma inguinale" originated; it does not mean anything to me.

I saw some most virulent and rapidly spreading venereal ulcerations while in the tropics; in many instances the lesion was as extensive as in the case shown by Dr. Young. The patients were treated in the way we ordinarily treated venereal ulcers at that time, that is by the local use of iodoform, permanganate of potassium, nitric acid, nitrate of silver, actual cautery, etc. Every patient recovered under local treatment unless the ulcers could be traced to tuberculosis of syphilis.

I remember very well treating patients having extensive lesions like the first three slides shown by Dr. Young; they were treated with Paquelin cautery under anesthesia; the ulcers healed after superficial cauterization and dressing with iodoform gauze, the patients making a prompt and satisfactory recovery. We did not have the Wassermann test to assist us in making the diagnosis; we had to depend upon the history and clinical symptoms alone. We regarded the lesions for the most part as venereal in origin,

but some of these tropical cases were not syphilitic. I am glad Dr. Young exhibited the patient.

In the clinic of the University of Louisville at one time we did considerable experimental work in trying to ascertain the cause of these ulcerative lesions. The late Dr. I. N. Bloom declared they were chancreoid and not syphilitic in origin. Several persons who were inoculated experimentally with excretion from the ulcers were made quite ill for many months.

There is undoubtedly a germ which causes the disease. In the tropics it sometimes spreads like wildfire. The local application of remedies such as I have described did effect a cure in our cases.

I hope Dr. Young will give us some further information about the method of treatment he is using.

**A. T. McCormack, Louisville:** I had the opportunity of seeing many patients with granuloma inguinale during my service in the Canal Zone. The lesions in all these cases closely resemble syphilis, but they do not respond to anti-lentic treatment. In only one of our cases were the Donovan bodies demonstrated.

After returning to this country I saw one patient with this disease, yet even after my former experience, I failed to make the diagnosis.

The clinic we have seen tonight brings to our attention one of the rarer diseases which is of especial importance not only to the patient but to the public generally.

**Wm. J. Young, Louisville, (Closing):** The name "granuloma inguinale" has been used in medical literature for several years. The disease was formerly known by several other designations, e. g., venereal ulcer, serpiginous ulcer, chancreoid ulcer, malignant granuloma, etc. As the lesion, nearly always first attacks the inguinal region, I believe the name "granuloma inguinale" is appropriate and sufficiently expressive.

While it does not appear to have been definitely proven that the encapsulated bacillus of Donovan is the actual cause of the disease, this organism is often found in the granulomatous tissue and is regarded by many observers as being the principal causative factor. There are others, however, who do not hold this view.

I think Dr. Freeman was exceedingly fortunate in obtaining such favorable results as he has reported from the treatment outlined. Formerly in cases of this kind, especially where the perineum was involved, we used the actual cautery; but under this method of treatment the result was temporary; the patients returned within six months or a year with recurrence of the disease. In the case reported in my paper the lesion appeared nine years ago.

Tartar emetic seems to have a specific effect not only on the clinical lesions but also on the Donovan bodies. The drug is given intravenously. One observer has reported sixteen cases fifteen of which were cured within three months by intravenous injections of tartar emetic solution.

In all these cases quite naturally the first suspicion is that the lesion is a tertiary manifestation of syphilis. A Wassermann test is made in every case and where it is positive intensive anti-luetic treatment is instituted. Under this method temporary improvement is sometimes noted in the local lesion, but recurrence is the rule until after a course of tartar emetic has been given.

### THE PROBLEM OF MEDICAL CULTS AND ISMS AND ITS SOLUTION.\*

By S. J. ROSE, Winchester.

It is seldom that any group of medical men congregate that the various cults and isms do not come in for a general roasting and blanket charges are made of the fraud that they are perpetrating on the public. Then the general wail follows that something ought to be done about it. Other than this, about as much is done towards correcting the trouble as is done towards regulating the weather. The Christian Scientist, chiropractor, osteopath, Abramism, and what not, receive their share of lambasting and the activity of the buccal muscles ceases only when exhausted. We plunge at these cults and isms like a maddened bull at a red flag, but our only weapon is irresponsible talk.

What does an impartial analysis show? The famous saying that "one can fool some of the people some of the time, some of the people all the time, but not all the people all the time," ought to help us here. Apparently, the cults do this very thing. However, whenever there is smoke there is said to be some fire and is it not possible that all these various cults have a spark of virtue? The writer feels that there is undoubtedly some good to be derived either directly or indirectly from the treatments of all cults and isms. He also feels that there are many weak points in our own system, but is equally sure that ours is more nearly perfect than any other system of healing, else, he would don a cloak of different hue.

As soon as we of the regular profession come to realize that the cults do have some virtues, then it will occur to us that we might at least

investigate them sufficiently to discover just what those virtues are. When this is done, standardization is the next step. By that is meant that all first class medical colleges should teach those features that are worthwhile with the idea of adopting them. The schools should not only teach the worthwhile features but should also place particular stress upon those the student should avoid. In this way the public can be informed from a reliable source the type of charlatan to be shunned. Our present method seems to turn out the embryo M. D. ignorant of the cults and isms in about the same way that many mothers rear their offspring. Any girl is better prepared to sidestep the advances of designing men if her mother has properly instructed her regarding not only the good man, but also the bad. We were taught only the best in medicine, but were never given a single lecture as to how to deal with our short cut and decidedly inferiorly prepared competitor who has only the pocket book of his victim in mind. When we are asked about such and such a cult, we usually state to the inquirer that it is a fake, and promptly dismiss it. The patient takes the shortest road to the miracle producer to tell him that we are jealous and a bunch of knockers.

It is difficult to imagine with what rapidity the spinal gymnastic specialist would disappear from our midst if every physician in a given city were instructed in his mode of treatment and possessed a table to show the patient when he comes into his office. At present it is easy to imagine every physician approached on the subject throwing up both hands and wildly exclaiming that he would not think of putting in such a fake treatment table in his office, and that it is beneath his dignity even to discuss such a fraud. Just as long as we insist on burying our heads, not unlike the ostrich, just so long will we continue to be faced with many unnecessary and even harmful brands of healing. It is just one of two things. Our work is absolutely essential or it is not. The cults are either an essential or they are not. Let us find out which is needed the most, and if theirs is, let's stop ours. If ours is, let's stop theirs. If there is something in theirs worthwhile, let's adopt it. Why not? Let's also learn that part that is worthless or harmful and so instruct the public. It will not mean a fight at all, only a skirmish.

What other solution have we? Physical therapy. We have all practiced physical therapy all of our medical and non-medical lives. Our mothers used liniments and rubbing. Rubbing did the work. The hot water

\*Read before the Clark County Medical Society.



bottle was applied religiously. It always helped. Before the advent of the hot water bottle the hot brick or hot iron was used. Who has not used many such for his toothache? It did not cure the tooth, but the ache. The forceps was the cure. That is physiotherapy. It is the adjunct which should be used in the practice of medicine and surgery. It is the "missing link" of the medical profession. It will be used in a few years by every physician who cares at all about the welfare of his patient. If he does not have the equipment he will send the patient to one who has, and they will work in conjunction with each other.

In putting a patient to bed we employ physical means of therapy of the greatest importance, for we change the mechanics of the circulation. In applying a surgical dressing or splint we use physical treatment. External applications of heat have long been employed in the form of poultices of various kinds. In this connection it is interesting and significant that the heat of a living body was formerly believed to be of an entirely different source from that which emanated from the non-living. A puppy dog was considered a more effective therapeutic agent than a hot water bottle, and the heat from a young human body was sometimes prescribed for the treatment of elderly invalids.

Massage and both passive and active motion have been used more or less from time immemorial, as also has hydrotherapy. The morning cold plunge, which has been recommended for every ailment to which flesh is heir is but a simple form of physical therapy. Electricity, in some form or other, has had its vogue, as have sun light and colored lights. There have been elaborations in the application of posture, movements, rubbing, heat, baths, electricity and light, but after all there is little that is new, and because they do not savor so much of occult as does chemotherapy (drug treatment), they have been neglected sadly by the profession which has preferred to wield the prescription pen or the carving knife to the neglect of means which are less mysterious and spectacular. As a consequence, practitioners with neither knowledge nor skill have been reaping a harvest by unsuccessful hit or miss application of physical means.

We have heard much more of physical therapy since the war in connection with injuries, and, indeed, its importation in this connection was one of the good things which we gained from the war. For a quarter of a century physical means had been highly developed in Europe on account of the monetary import-

ance of returning an injured workman to his job at the earliest possible date. The shortening of convalescence reduced the workman's compensation accordingly. When the war came the same machinery was ready prepared for application for the speedy return of the wounded man to his place in the ranks. There was nothing new about it except to American eyes. Since the war, one hospital in this country which deals to a large extent with the wounded from the ranks of labor and which has established an elaborate physical therapy department, finds that in its fracture cases the saving in time of recovery, compared with their records under the older methods, is from ten to thirty per cent, according to the nature of the injury, while the recovery is also more complete.

In comparison with the physical therapy as practiced by our mothers to that of today with our wonderful electric machines accurately and instantly controlled, it is like discarding the automobile and going back to the oxcart. We know that fresh blood supply is necessary in all diseases. For example, any good high frequency machine will deliver heat to any part of the body in any amount. The lungs in pneumonia, a broken bone, a tubercular joint, a neuritis, a lumbago, and the like, may be reached as easily as iodine is painted on a skin abrasion. Satisfactory results may be obtained in many sinus conditions provided there is not confined pus. If there is pus, that is where the surgeon comes in. Arthritis cases may be handled in many different ways, e. g., diathermia, ultra violet radiation, the sinusoids or galvanics. We all know that sunshine is tonic, a reconstructor, that it fixes the calcium content, places iron we administer in its proper place—in the red blood cell. In short, it normalizes metabolism. Its use in tuberculosis is too well known to be dwelt upon here. Exercise of a part can best be accomplished by means of a Polysine generator—a machine of low tension with ten different types of current. This takes the place of the ancient method of rubbing and and takes it well. The galvanics are our weapon wherever chemical changes are required.

In conclusion, the writer wishes to say that he expects but one thing from this paper, and that is criticism. If he receives it, the paper will have achieved its purpose. Constructive criticism along all lines has accomplished wonders. It will do the same in the solution of this somewhat difficult problem. Whenever there is criticism it shows that the critic is thinking. If he has a better plan let him bring it forward. That is what it is hoped this paper

will result in. It is sincerely hoped that the biggest men in the profession will do some-thinking, for their thinking will be accompanied by action, and by action results will surely follow.

### OSTEOCHONDROMA OF PHALANX.\* CASE REPORT.\*

By J. DUFFY HANCOCK, Louisville.

The following case is reported because of its comparative rarity and the interesting problem in diagnosis that it presented.

Patient, J. D., a negress, aged seventeen years, was seen with Dr. L. Wallace Frank. She first came to the office complaining of pain in her right middle finger. Family and previous personal history, irrelevant and the physical findings, other than the surgical lesion, were of no importance.

She stated that three or four months previously she had first observed a swelling in the right middle finger near its junction with the hand. The tumor was tender and at times painful without being touched. The pain had gradually become more pronounced and the swelling more marked extending toward the hand.

Examination of the right middle finger disclosed a fusiform swelling of the proximal phalanx more prominent near the base.

Considering the possibility of infection hot packs were advised. However, when the patient returned a few days later with no fluctuation but with increased tenderness and more swelling (the metacarpo-phalangeal joint being definitely involved) roentgen-ray examination was suggested. The report stated that the shaft of the proximal phalanx of the right middle finger was expanded and showed a honeycomb appearance. A diagnosis of sarcoma or possible cyst was made.

Several days later at operation it was found necessary to amputate the finger at the metacarpo-phalangeal articulation since the head of the metacarpal did not appear affected it was not excised. The wound was closed without drainage, healing was by primary intention, and there has since been no further trouble.

The pathological report stated that after the soft tissue had been split and reflected the phalanx appeared slightly larger than normal and smooth, while microscopically decalcified sections showed a typical bone formation with atypical cartilaginous deposit on inner side. The cells were well differ-

entiated and no mitoses were seen. The diagnosis was osteochondroma and no evidence of malignancy noted.

The fact that the medullary canal was filled with the material seen in the specimen now exhibited, and the fact that bone cysts are often lined with cartilaginous cells, probably accounts for the cyst-like appearance shown by the roentgenogram.

### DISCUSSION

**I. A. Arnold, Louisville:** Bone cysts are very rare. In my experience I have encountered only two such cases. Osteochondroma is more frequent than bone cyst, and the clinical aspects are somewhat different.

Osteochondroma seems to grow outward producing exostosis and there is little destruction of the bone substance at first, but later destruction is marked from pressure interfering with nourishment of the bone. On the other hand a cyst seems to absorb the bone substance from the inside the medullary canal being filled with a gelatinous substance. In the case Dr. Hancock described the cyst contained cheesy material, but in the cases I have seen there was a jelly-like substance.

A boy of eighteen recently came under my observation who had multiple bone cysts, every joint of one hand was involved except the distal phalanx. A slight swelling of one finger was noted when he was three years old, then gradually the different joints of the other fingers became involved. He came to operation at the age of eighteen, not because he suffered any pain but the cysts had become so large as to markedly interfere with mobility of his fingers. The last time I saw him there had been considerable improvement, but he is not yet sufficiently well to determine what the ultimate outcome will be. We cannot explain the etiology of bone cysts, nor can we say much about the prognosis.

There are several methods of treating bone cysts. Some surgeons simply fill the cyst cavity with paste or other material, others advise allowing the cyst walls to merely collapse. I have always thought it advisable to remove the bony tissue except a small strip on one side leaving the periosteum to collapse and thus fill the cavity.

**J. Duffy Hancock, Louisville, (Closing):** The finger was amputated in the case reported (1) because of the possibility of the lesion being a sarcoma, and (2) the fact that the patient was a negress who had to earn a living with her hands. She was suffering pain, she had to work, and wanted the quickest convalescence with the best possible chance of permanent cure. For these reasons we thought amputation was the most rational procedure.

\*Clinical report before the Jefferson County Medical Society.



## INDUSTRIAL EYE INJURIES.\*

By W. J. THOMASSON, Newport.

Eye injuries in the year 1917 amounted to 8 1-3 per cent of all industrial accidents.

Today with steel mills and machinery tool works, railroads and other manufacturing plants running to full capacity, it is hard telling how many men each year either lose their sight, or have their earning capacity lowered by eye injuries.

Every man injured means a loss in time and money to the plant employing him, to say nothing of the suffering to the individual, that can not be measured in dollars and cents.

The most serious aspect of this subject is that most of these accidents could be prevented, and in some shops where safety first campaigns have been tried it has been proven that by just wearing goggles alone accidents have decreased 75 per cent.

Most of the accidents are due either to the carelessness of the workman or the indifference on the part of the employee.

Education, the proper placing of the workman, watchfulness on the part of the foreman that safety rules are obeyed, the prompt repairing of all mushroomed tools, the proper lighting of shops, and above all the examination of every workman's eye sight before assigning him to work, this is essential for two reasons, a man with defective vision should not be given an extra hazardous position, and second many men will claim large damages for an eye after an accident that was impaired before the accident examination eliminates these imposters.

The gross carelessness of owners of some shops are criminal.

Under the law they do not have to carry compensation for their workmen, they do not protect the dangerous machinery and the man that is injured neither gets damage for his injury, pay for his time, or anything to settle his doctor bill.

I will recite one case, a boy of 16, an engraver by trade, was engraving belt buckles in a small shop, to keep him busy all the time when not engraving, he was transferred to a wire machine that was used in the manufacture of buckles, this machine had no guards to protect the eyes from flying wire, a small piece hit this boy in the eye causing a traumatic cataract, his earning power has been lessened yet the boy has received no compensation.

On the other hand is it fair to the manufacturer who spends good money for devices

to guard machinery to find the same removed by the worker for his own convenience?

Is it justice to the company when they furnish goggles to the men to wear while chipping steel, or using the emery wheel to have their workmen discard them as soon as the foreman's back is turned?

These are the men that report to the dispensary with an eye injury causing not only a loss of time, but money to the company and increase the cost of the manufactured product entailing a monetary outlay  
! down the line.

Is it justice to the men or company when the handy man "which you find in every shop" proceeds to remove the foreign body from the workman's eye with his soiled handkerchief, a toothpick or some other dirty tool?

These shop oculists are to blame for the majority of all eye infections that come to the doctor. In many shops all injuries ever so slight must report to the office at once for first aid, and woe unto the individual that gives or receives first aid without reporting to the dispensary.

In the shop employing but few men and under no state supervision as to safety devices, or compensation, the men injured not only are compelled to pay their own doctor bills but receive nothing for their time and injury, this condition has been true in a number of cases coming under my observation, the small shop owner, the jobbing carpenter, and the farm hand are under this head.

The jobber remodeling an old building is hit in the eye with a nail, the pole of his hammer may be mushroomed or his cold chisel be faulty, or the farmer may be driving a wire staple or a nail causing an eye injury. These are the ones that are without compensation.

One cause of many injuries especially in the home and on the farm is cheap tools, such as are sold by many dealers at low prices, and many of the hammers, hatchets, and cold chisels are tools that have been condemned for flaws or other reasons. These tools either break or mushroom easy destroying the sight of the user.

When you can buy a hatchet or hammer for ten cents remember the price may be the loss of an eye or some bodily injury.

The question is how shall these injuries be prevented?

1. The vision if every man before he is employed should be tested and all abnormalities of the eye noted. This will assure that no man with impaired vision will be put in an extra hazardous position, it will

\*Read before the Campbell-Kenton County Medical Society.

also act as a check for claims for loss of sight after injury when it is not justified.

2. Men should be taught the proper protection and the use of safe guards in all dangerous occupations.

3. All mushroom tools should be repaired before permitting men to use them.

4. The foreman in every department should be held personally responsible for all injuries due to his men, caused by breaking of safety rules.

5. All workers found endangering their vision by disregarding the safety rules should be warned, and if he persists in taking chances with his sight he should be dismissed.

6. All injured men it matters not how small the injury, should be at once sent to the infirmary for first aid and referred to the doctor for treatment.

7. The so-called shop oculists should be regulated to the scrap heap and remelted and molded into innocent men.

A large per cent of all injuries to the eye in a steel plant without early and proper treatment becomes infected, earlier the foreign body is removed better is the chance for complete recovery.

Many of these cases in 48 hours without treatment will come in with the pupil contracted, tenderness over the eye ball, the field of the vision restricted and every indication of a severe deep seated inflammation of the eye structure, I have found that the sheet anchor in these cases is atrophine. It matters not what the age of the patient.

All cases giving the history of being hit in the eye with a piece of metal whether a cut, or puncture of the cornea can be seen or not, should be X-rayed. My experience has been that many of these cases will prove negative.

But the very cases that you would doubt a foreign body in the eye are the ones that at times prove positive. Some of the cases with a piece of steel in the eye complain of no pain, and if they come to you 24 to 48 hours after the injury all traces of the wound on the cornea has disappeared.

Another reason that these cases should be rayed, is in case you should overlook a piece of metal in the eye and some other man should have the case rayed, or if the man should lose his sight and the ray should show a foreign body the doctor that neglected to have the X-ray used would be liable to a malpractice suit.

Infected injuries with tenderness over the eye ball, redness and contracted pupil, pain and cloudy vision, a history of an injury or foreign body in the eye for several days

means that the worker will in all possibility have impaired vision.

A piece of metal or stone striking the upper eye lid may cause either a hemorrhage into the vitreous, a detached retina, a traumatic cataract or some other condition, that may destroy the sight, the shock following some of these cases is severe and the prognosis should be guarded.

The absence of pain is no reason to think that metal has not entered the eye ball. Many cases with steel imbedded within the lens or vitreous may have very little pain or none at all. On the other hand a small cinder or dirt may lodge on the lid or cornea and cause intense suffering.

Foreign bodies may be easily overlooked on the cornea unless a good light preferably oblique illumination or some form of a loupe is used in locating the trouble.

Never try to remove a foreign body from the cornea without the use of cocaine, when the drops cease smarting then the object may be removed without any discomfort to the patient.

A cinder or other object may be removed from the lid without cocaine but if the individual is timid or the eye much inflamed it is better to use a 4 per cent before attempting to turn the lid. With a little practice it is an easy matter to turn the lid and remove any foreign body from the conjunctiva. The patient should be told to open both eyes and look down, then with a tooth pick or other small instrument laid across the upper lid it may be averted without any trouble.

Should emery be imbedded in the cornea, and it usually is, for it enters the eye hot and burns its way in, after cocainizing the eye a small spud must be entered under the emery for its removal, care must be used that the cornea is not injured by the removal of the emery, all of the discolored tissue must be removed as well as the foreign body, for if it remains the result will not be satisfactory.

Should the foreign body not be buried in the cornea or conjunctiva it may be easily wiped from the surface. A small swab of cotton on an applicator or tooth pick moistened in holocane causes the particle of dust or cinder to adhere to the cotton and the moist swab is grateful to the sensitive tissue.

Should your patient be intelligent, the after care of the injury will progress more smoothly and the time of recovery much shortened. But with the ordinary foreigner you will find that your instructions will be disregarded and the time of recovery much prolonged.



After all injuries, cleanliness, atropine and a bland ointment for the burn cases are the sheet anchors. Iodoform ointment Gr. 5 to the ounce of white petroleum is a favorite of mine in these cases. Iodoform as a dusting powder to an abrasion or ulcer on the cornea has its place in the treatment of the septic cases.

Remember that foreign bodies entering the eye ball are rare compared with minor injuries and that these minor injuries are the ones that do the most damage.

A large per cent of all eye injuries are due to carelessness and can be prevented.

Earlier the proper treatment given these cases better the results.

Education of the worker along the lines of safety.

Stricter supervision on the part of the foreman in all departments.

The stoppage of all first aid by the workers in the shop.

The prompt reporting of all accidents it matters not how slight to the company dispensatory.

The early care of the patient by the doctor and a follow up supervisor to see that the doctors orders are obeyed.

Let us hope that each year will show a decrease in industrial eye injuries.

This can be brought about by better team work between the owner of the shop and his workman. Closer supervision of the men by the foreman of each department, education of the workers along safety first lines. And we as physicians can be of great help to this cause in advocating safety to our clients and in rendering prompt service to all eye injuries.

#### Mitral Stenosis Without Rheumatic Fever:

Meleney and Kellers report on thirty-nine cases of mitral stenosis occurring in Chinese patients, particularly from the standpoint of their etiologic relationship to rheumatic fever, acute arthritis and chorea, and three conditions which were termed by Duckworth "rheumatic antecedents." Of the thirty-five only one gave a history of rheumatic fever, and one a history of chorea; while fourteen others gave a history of joint pains of varying intensity. No other infectious diseases appear to be especially involved in these cases of mitral stenosis. In sex and age incidence, in electrocardiographic phenomena and in the pathology of three cases which came to necropsy, these cases are similar to the cases of mitral stenosis of rheumatic origin seen in Europe and America. Of the six known deaths in this series three cases came to necropsy. In all of these the diagnosis of mitral stenosis was confirmed.

## THE EPIDEMIOLOGY OF TYPHOID FEVER.\*

By C. A. CALVERT, Scottsville.

The title of this paper probably would have sounded better if it had stated the Epidemiology of the Typhoids, as we now know this disease is due to the Eberth Bacillus, which was described by Klebs and Eberth in 1880, and the para typhoid "A" which was isolated and described by Gwin; and the para typhoid "B" which was described by Archibald and Ben Sanda in 1896.

Gwin isolated from the blood of a patient with clinical typhoid the para typhoid "A" bacillus. At the present these bacteria are the cause of the diseases known as the typhoid fevers.

When these diseases were first differentiated from typhus fever they were not known to be transmissible. As late as 1850 some excellent observers were of the opinion that typhoid fever was communicable to a limited extent.

In 1856, Budd, the English physician, by close epidemiological studies, showed that water contaminated by the discharges from a patient ill of typhoid could and did produce the disease in others. He went so far in his investigations as to reach the opinion that the stools of a patient convalescent from typhoid may serve in the transmission of the disease.

Murchison, who was a voluminous writer, upon the disease 1852 to 1884, believed that this disease might be transmitted by polluted water, or milk. He also evolved the "pythogenic theory" which retarded the scientific advancement of knowledge in regard to the correct etiology of this disease for a long time. However in the middle of the 19th century Pattencoffer by his advice secured the closing of privy vaults and in their place obtained a sewage system and a pure water supply for the city of Munich with the result that the mortality from this disease declined from the appalling figure of 203 per 100,000 to 2.5 per 100,000, and these are said to have acquired the disease elsewhere.

The same result was obtained in Vienna. Other cities improved their water and sewage disposal systems with so great a decline in the incidence of the disease, that practically all great cities of Europe soon had safe systems of water supply and sewage disposal, thus lowering their mortality from the disease, and, at the same time, giving us a practical demonstration that the disease could be eliminated by sanitation.

\*Read before the Third District Medical Society at Glasgow.

You are all familiar with the various epidemics of typhoid fever that have been studied, and reported.

The Maidstone epidemic in England, one in seventeen of the population contracted the disease; while in the Plymouth Pennsylvania epidemic, the incidence was one in seven. These epidemics were traced to the use of infected water. The disease has also been acquired and epidemics traced to bathing in infected streams and beaches, the water afterwards having been found to contain the typhoid bacillus.

The disease may be acquired by the use of milk, in this case the milk having become infected by the dilution with water, or washing the milk cans with infected water, or coming in contact with infected persons or things.

The typhoid bacilli do not multiply rapidly in water as a rule, while on the other hand milk is an excellent medium for their growth. For this reason, the protection of the milk supply of a community or family becomes a necessary sanitary procedure.

Cows may drink water, or eat food infected with typhoid bacilli, but the milk as it comes from the udder, will be uncontaminated by this organism. On the other hand, the exterior of the animal may carry the infection obtained by wading in filthy water, or resting upon grass that has been polluted by the discharges of man. The hands of the milker may come in contact with the body of the cow, or the udder of the cow may not be sufficiently cleansed and in this way the bacteria may be carried into the milk.

It might be well to state if an outbreak occurs from the drinking of infected milk it will not occur earlier than ten days therefore all the users of the milk who are susceptible will have time to become infected before anything can be done to prevent its spread.

The spread of the disease by water and infection of the milk supply by water have been carefully explained. But milk can and frequently does become infected by flies that have fed on filth; thus dairy houses should be properly screened, while workers and the cows should be scrupulously cleaned.

Typhoid fever is spread at times by contact, this is by actual carrying of the disease from a patient to other persons by contaminated hands, clothing, bedding, feeding utensils, and even the tents. This method of spreading the disease was found responsible during the Spanish American War for a very large per cent of the cases. It was also demonstrated at this time by a Federal Commission, that typhoid fever was not only an

infections but contagious disease as well, and that it could be transferred from one patient to another person, and that clothing and bedding and utensils of a typhoid patient should be as carefully disinfected as those of a case of diphtheria, or scarlet fever and it was not until the clothing, equipment, tentage and blankets of the soldiers were disinfected, 1898, that typhoid fever was arrested in the army.

Nurses not properly instructed in the disinfection of their own hands and person, and the care of the discharges from the patient, frequently infected not only themselves, but other members of the family of the patient.

Another means of the dissemination of typhoid fever as well as some other diseases is by carrier infection. This carrier of the infection may at some previous time have had the disease or he may of not, as is well known. The path of the bacillus into the body, is through the mouth in most all cases. The small amount of hydrochloric acid in the gastric juice has but little if any effect upon the growth of the organism, and as there is no infection of the host until the bacilli pass from the alimentary tract and finds its way into the blood, it is possible for a person to grow virulent colonies of bacteria in his small intestine and yet remain perfectly healthy, and at the same time be a continual source of danger to his friends and associates and the community in which he resides.

The question of infection by air transmission, will not be discussed at this time. The above sources are the principal ways by which the typhoid bacteria gain entrance to your body, and if these avenues are properly guarded, the incidence of typhoid fever will be materially lessened.

---

**Surgery of Knee Joint:** Experience has convinced Allison that in many clinical conditions, a high percentage of disabled knees may be returned to normal knee-joint function by appropriate surgical interference. In certain disease processes, notably tuberculosis, operation upon the knee offers the one sure method of cure. Here the operation should have for its object the establishment of ankylosis. Until such time as the treatment of tuberculosis by heliotherapy has been perfected and made practical, this would seem to be the better position to hold. In certain disease processes, notably the acute infections of the knee, operations to clean the joint cavity, or to establish drainage, hold the only promise of conservation of knee-joint function. Functional use of the lower extremity may be well carried out with a stiff, strong, weight-bearing knee. Functional use of the lower extremity is inhibited or lost if the knee be insecure, painful, or partially functioning.



## PRESIDENTIAL ADDRESS.\*

By W. L. MOSBY, Bardwell.

Fellow Members of the Carlisle County Medical Society; It is with mingled feelings of pleasure and regret that we come to the close of another Medical year in our history, a pleasure to be thus honored by you, making me your President for the third time and a pleasure to note the out-standing progress in our noble profession in our County, our State and in our Nation an epoch for which we should feel especially proud, and with regret, that I have not been able to serve your needs better and advance the scientific interests of our progressive profession more thereby advancing the common interest of humanity and helping to ameliorate the many ills to which our flesh is heir.

It is not my purpose today to discuss before you in this impromptu paper any particular subject of a scientific nature but to wander into the outer realms of medical ethics (disconnectedly) and to mention a few conditions that are of more than passing importance to us as busy practitioners of medicine.

Commercialism is a modern monster and as gnawing at the very vitals of our profession, it is malignant in its tendency and wide spread in its infection and the warning should be sounded and the remedy applied to best meet the indications to control its savages. The high cost of living and in many instances "high living" is largely responsible for the spread of the human malady and a knowledge of the cause would suggest the remedy.

Ambition in the young is laudable but a willingness to serve for a time before reaping the larger emoluments that should come to the older (does in other vocations) should be encouraged as there is no place in medicine for the "get rich quick Wallingford" type but a willingness to serve is the only incentive and brings its own reward not in "shekels" but in a nobler assurance of duty well performed. Many in our ranks are prompted by selfish motives to apply the so-called "business methods" to our profession and "bid" for work, by indirectly advertising, i. e., "talking up" their "business" news paper "interviews" and "news items" in which he is the "principal," etc.

At a recent meeting of the American College of Surgeons in Chicago a very distinguished Surgeon was interviewed in which the elaborate speculative statement that the

human body contained 28 trillion of cells, and these were the seat of "actions" and "reaction" a beautiful theory full of fancy and interest to the reader of scientific medical literature but savors of a method of advertising when unloaded on an unsuspecting public.

So a thought or a theory may be commercialized, not directly but indirectly.

I shall not discuss the many "cults", "chisms" and "pathies," nor the Abrams fallacies of today, as they have nothing in common nor any connection with scientific medicine as practiced by our ancient, honorable profession but are the "off-shoot" of commercialism, tintured by fraud, often practiced by men more avaricious than honest and patronized by an uninformed, unsuspecting public that are easy victims of these human "vampires" that prey on the ills of mankind.

The changed conditions in living engulf us in the mad rush and race to live and improve our estate and we are prone to apply the so-called "business methods" to our profession, forgetting the higher order of ethics and regarding our conference as our competitor thereby degrading, rather than elevating the ancient, honored profession of our fathers.

It is very unfortunate that the physician is or has not been provided with a competence so that a very prevalent handicap would be removed, better enabling him to devote more time to study, research and self improvement for the benefit of his clientele, removing a frequent source of worry about the ratio of income to expense that so often vex and perplex us.

Post graduate work should be encouraged by our members, a number of properly selected medical societies should be attended selected to suit our needs, I mean in line with our work, bringing practical knowledge where it would be most and best utilized.

In our extensive, intensive, system of medical education there is no pre graduate specialties, all medical knowledge is based on the established fundamentals, as found in our text books in anatomy, physiology, pathology and materia medica and chemistry and no one should attempt to specialize in medicine or surgery until he has had some ten years in general medicine. If our members would take advanced or special training at such a time in their practice as they can spare time and means and develop some line of practice to which they are best adapted this would better serve our clientele and increase our financial income, each man should do his line of work better than the other and hence co-operation on all lines, this idea

\*Read before the Carlisle County Medical Society.

carried to its proper conclusion would mean a hospital for our county with a competent man at the head of each department.

I do not contemplate a lowering of the present standard of medical practice but an elevation of developing our hidden talents. This advanced step would be in the interest of the profession and public as well. These are matters of education and development for the future and will come when medical organization and progress harmonize and crystallize a broad, unselfish desire for service and the ever present question of compensation will be provided for by the County and State or those directly or indirectly benefitted and not the Doctor bear the entire burden alone.

So long as the State does not educate and provide for the Doctor's existence, she has no right to expect him to care for her poor without compensation by the State.

When visiting patients or families of other physicians in emergencies or in their absence we should be very reserved, withholding opinions and suggesting medicines and elaborating diagnosis, or prognosis and intruding beyond the absolute needs of the case, as any suggestion as to the future management of the patient should be confidentially communicated to the family physician.

"Green eyed" jealousy should be destroyed and "pop eyed" egotism subdued when present and recognized and the nobler spirit of fraternalism practiced in our dealings with our fellows, eliminating the narrow, selfish designation of "competitor", "opponent" and learn to know our fellow as our "confere" "associate fellows" or names that are more euphonious and suggest higher degree of respect and honor.

Medicine is not a business, it is a profession and the noblest that God ever gave to man and the responsibility is upon you and me to keep it thus and pass it on to the succeeding generation with that high and sublime degree of honor and respect which it should command. In conformity with the spirit of progress for which the Carlisle doctor is noted it is gratifying to mention that most of our physicians have availed themselves of advanced study or post-graduate work and are prepared to do special service in eye, ear, nose, throat, rectal surgery, minor surgery, internal medicine, diagnosis, electrical treatment as well as is possible outside of our best regulated hospitals.

Radium is also being used by our physicians in the various malignancies with marked success and satisfaction.

We also are using insulin in the treatment of diabetes in our office and the home of the patient relieving the necessity of going from

home for this prolonged administration that so surely stays the march of this fatal malady, especially true of young life.

I wish to say that our Society has as skilled gynecologist and obstetrician as any county in our great State can boast.

Intubation is frequently practiced by our local members, perhaps as successfully as is one anywhere.

In conclusion I wish to say that our society is honored with a man, a physician, and a historian that stands second to none in this great commonwealth nor indeed to any State in this glorious Union careful, competent and conscientious, a Christian gentleman, a humanitarian of the nobler type and of whom we are very proud to claim and honor, one we all love.

Wishing the Carlisle County Medical Society many years of useful efficient service to our members and our people in the alleviation of their ills and devotion to scientific medicine and surgery.

### CATARACT IN THE ONLY EYE.\*

By CHARLES C. MAUPIN, Louisville.

The following case is reported chiefly as a matter of interest. To deal with the blind is one thing, but to deal with the near-blind is an entirely different proposition. The patient is a male, aged fifty-one years, who in all probability had ophthalmia neonatorum at birth, resulting in the entire loss of vision in one eye which became painful and was enucleated when he was twelve years of age.

The cornea of the remaining eye suffered a severe scar over lower segment and covering more than half the pupil; the iris had become attached to the cornea under this scar. However, this eye, with very imperfect vision, served him until about nine years ago when a cataract began developing and continued until the early part of July, 1923.

When I first saw him he could scarcely discern the number of fingers at two feet. He was operated upon in August of this year under the foregoing circumstances with the added difficulty of having many different answers to his problem.

The iris being attached as stated, I made my cataract incision with the view of doing an upward iridectomy at the same stroke, which was successfully accomplished, thus giving him a new and adequate pupil.

The case has terminated in satisfactory recovery with approximately 6-10 vision, which

\*Clinical report before the Jefferson County Medical Society.



according to the statement of the patient is better than he had ever previously enjoyed.

### DISCUSSION.

**S. G. Dabney:** The case reported is very interesting, but I think the title does not do it justice. Operations for cataract where there is only one eye that can possibly be made useful are not very rare; they are not nearly so rare as operations for cataract on an only eye which has had perforation of the cornea with anterior synechia resulting in consequence. Sometimes we have had the misfortune to lose the eye; sometimes we have seen cases where someone else has operated with loss of one eye. I may mention an instance in which I operated upon a physician of ninety-two for cataract in his only eye. He never told me who had operated upon the other eye, but unfortunately suppuration ensued and the eye had been lost. That old gentleman afterward had vision of 20-70 which was all or more than he was entitled to at the age of ninety-two years. The other eye may be blind from inoperable disease such as nerve atrophy. Dr. Maupin is to be congratulated on the result in the case he has reported.

There is only one question I wish to raise in regard to the treatment: While it is not the universal opinion by any means, there are many men who believe, when an operation for cataract is to be performed on the only remaining eye, that it is wise to do a preliminary iridectomy. Some on the other hand think it better to do the combined operation such as Dr. Maupin performed. However, the larger proportion of men who operate for cataracts, including the elder Knapp, recommend when there is only one remaining eye, to perform preliminary iridectomy to make the cataract operation a little safer.

**Claude T. Wolfe:** There are several features in Dr. Maupin's report that I desired to discuss, but Dr. Dabney has stolen my thunder. I think the most of us are agreed that when there is only one eye left, and this eye is the subject of cataract, preliminary iridectomy is far the safer method to pursue. I think preliminary iridectomy renders the cataract operation less dangerous from many standpoints. For instance in cases where we have to deal with synechia; in doing preliminary iridectomy, the adhesions may be separated which renders delivery of the lens very much easier. If the lens can be delivered without any attending synechia or other complication, the chances of losing the eye are minimized.

**Charles C. Maupin (closing):** I have little to say in closing except to thank the gentlemen for their discussion and also for their criticism. The lower part of the iris was firmly attached to

the cornea, and I was a little fearful of doing some damage which might cause further synechia; but the lens was easily delivered by rupturing its capsule, and the operation was completed without the least difficulty.

### NEUROFIBROMA TREATED WITH RADIUM.\*

By WILLIAM J. YOUNG, Louisville.

August 1, 1921, Mrs. C. L., aged thirty-two, consulted me because of a lesion on the tip of her right index finger. Previous history: the patient stated that a nodule the size of a pin head appeared on her index finger in February, 1921; that she had punctured site of lesion with a wire a month prior to its appearance. The nodule gradually became larger and was sensitive under pressure.

On June 11, 1921, the nodule was excised under local anesthesia and on microscopic examination the specimen was found to be a neurofibroma. The wound healed by first intention and within a month there appeared over the same site two small lesions which began to grow larger and were similar in aspect to the one formerly present.

On examination, August 1, 1921, I found two nodules the size of match heads on tip of finger; they were pearl-like in appearance and painful to touch. These small nodules were half embedded in skin of the finger. A ten milligram radium skin plaque, screened with one-fifth millimeter of aluminum and one layer of thin rubber, was applied for eighty minutes. The sensitiveness of the lesions disappeared the day following the application. Two weeks later there was a faint erythema present over the part radiated. The lesions had disappeared, and to the present date there has been no further trouble.

This is the first neurofibroma that I have ever treated with radium, and I am able to find in the literature no record of a similar case in which radium was used. The action of radium was so efficient that I thought the case worthy of mention. The treatment was applied on the assumption that, as fibroid tissue in other portions of the body is susceptible to radium, it might produce a like result in this situation.

It must not be assumed from this report of one case that I consider radium treatment a specific for neurofibroma; but certainly where the lesion is accessible to the same degree as in this case, I believe radium is a painless and apparently effective method of treatment.

\*Clinical report before the Louisville Medico-Chirurgical Society.

# Kentucky Medical Journal

PUBLISHED MONTHLY BY  
THE KENTUCKY MEDICAL ASSOCIATION  
Incorporated

Entered as second class matter October 22, 1906 at the Postoffice at Bowling Green, Ky., under act of Congress, March 3, 1879.

Subscription Price ..... \$5.00  
EDITED UNDER SUPERVISION OF THE COUNCIL

## OFFICERS OF THE KENTUCKY STATE MEDICAL ASSOCIATION.

**PRESIDENT**  
J. RICE COWAN ..... Danville

**PRESIDENT-ELECT**  
R. L. WOODARD ..... Hopkinsville

**VICE PRESIDENTS**  
E. L. HENDERSON ..... Louisville

WILSON SMOCK ..... Greenville

G. S. BROCH ..... London

**TREASURER**  
W. B. McCLEURE ..... Lexington

**DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.**

IRVIN ABELL ..... Louisville

F. A. STINE ..... Newport

A. T. McCORMACK ..... Louisville

**ORATOR IN SURGERY**  
J. H. BLACKBURN ..... Bowling Green

**ORATOR IN MEDICINE**  
VIRGIL KINNAIRD ..... Lancaster

**COUNCILORS**  
**FIRST DISTRICT**  
V. A. STILLEY ..... Benton

**SECOND DISTRICT**  
D. M. GRIFFITH ..... Owensboro

**THIRD DISTRICT**  
J. H. BLACKBURN ..... Bowling Green

**FOURTH DISTRICT**  
E. S. SMITH ..... Hodgenville

**FIFTH DISTRICT**  
W. E. GARDNER ..... Louisville

**SIXTH DISTRICT**  
R. C. McCHORD ..... Lebanon

**SEVENTH DISTRICT**  
VIRGIL KINNAIRD ..... Lancaster

**EIGHTH DISTRICT**  
F. A. STINE ..... Newport

**NINTH DISTRICT**  
A. J. BRYSON ..... Ashland

**TENTH DISTRICT**  
R. J. ESTILL ..... Lexington

**ELEVENTH DISTRICT**  
W. M. MARTIN ..... Harlan

**SECRETARY-EDITOR.**  
ARTHUR T. McCORMACK ..... Louisville

**BUSINESS EDITOR**  
L. H. SOUTH ..... Louisville

**ASSOCIATE EDITORS**  
H. A. COTTELL ..... Louisville

J. K. FREEMAN ..... Louisville

**ASSISTANT EDITORS**  
**UROLOGY**  
OWSLEY GRANT ..... Louisville

**DERMATOLOGY**  
S. A. STEINBERG ..... Louisville

**GENERAL SURGERY**  
IRVIN ABELL ..... Louisville

**PEDIATRICS**  
C. C. HOWARD ..... Glasgow

**OBSTETRICS**  
P. F. BARBOUR ..... Louisville

**EYE**  
EDWARD SPEIDEL ..... Louisville

**EAR, NOSE AND THROAT**  
L. O. REDMON ..... Lexington

**PROCTOLOGY**  
ADOLPH O. PFINGST ..... Louisville

**PRACTICE OF MEDICINE**  
O. T. WOLFE ..... Louisville

**ANESTHETICS**  
S. S. WATKINS ..... Louisville

**DENTAL PROPHYLAXIS**  
G. S. HANES ..... Louisville

**BERNARD ASMAN ..... Louisville**

**P. D. GILLIM ..... Owensboro**

**R. H. COWLEY ..... Berea**

**W. H. LONG ..... Louisville**

**GEORGE H. HEYMAN ..... Louisville**

NEXT ANNUAL MEETING—OWENSBORO, 1925

## COUNTY SOCIETY REPORTS

**MULDRAUGH HILL:** The August meeting of the Muldraugh Hill Medical Society was called to order by the President, Dr. Ed Smith, at the Brown-Pusey House, Elizabethtown on August 28, 1924. Approximately forty members were present from Hardin, Larue, Jefferson, Bullitt and adjoining counties.

The Secretary called attention to the absence of Dr. Chas. Z. And a charter member of the organization who died on July 15, 1924. The President immediately appointed a committee composed of Drs. Owsley Grant, R. I. Kerr, and C. W. Rodgers to draft resolutions.

The annual election of officers was next in regular order of business and resulted as follows:

President: Dr. J. S. Lutz, Louisville.

Secretary-Treasurer: Dr. Emmet F. Horine, Louisville.

After the transaction of routine business case reports were called for. Dr. C. W. Rogers, Rineyville, reported a unique green-stick fracture case which was discussed by Drs. Guy Aud and J. S. Lutz.

Dr. J. L. Lutz, Louisville, reported the case of a boy two and a half years of age who, in sliding down a board, ran along splinter into the abdominal wall. Operation was done which revealed that the splinter had entered the peritoneal cavity but that no viscus had been injured. The boy recovered. Dr. Lutz called attention to the advisability of immediately opening the abdominal cavity in any penetrating wound of the abdomen except one manifestly superficial.

Dr. J. S. Lutz, Louisville, read a very excellent essay on "Practical Pediatrics". This essay received liberal discussion by Drs. R. T. Layman, R. I. Kerr, F. G. Carroll, J. P. Boulware, L. W. Neblette, J. M. English, C. C. Carroll, Lillian H. South, Emmet F. Horine and in closing by Dr. Lutz.

Dr. Guy Aud presented an essay on "Acute Appendicitis" and brought out many interesting observations. This essay was discussed by Drs. Frank P. Strickler, Ed Smith, F. G. Carroll, R. I. Kerr, Lillian H. South, C. W. Rogers, W. S. Napper, J. M. English, C. C. Carroll, R. T. Layman, Owsley Grant, Warner Shacklette, J. P. Boulware and in closing by Dr. Guy Aud.

The next essayist, Dr. Gaylord C. Hall, Louisville, had been unavoidably detained but had sent an extremely interesting essay on "Endoscopic Work" with the request that it be read by the Secretary. Discussion followed by Dr. M. C. Baker, Louisville.



Resolutions adopted by the Muldraugh Hill Medical Society on the Death of Dr. Charles Z. Aud of Ceeelia, Ky.

Since the last gathering of this Society a loss has been suffered by both its brain and heart in the death of Dr. Charles Z. Aud of Ceeelia.

No peans of praise nor hackneyed eulogy can convey in words the feelings of loss which this society realizes in the demise of its trusted guide, philosopher and friend. Elsewhere will detailed note of his achievements be recorded but this society which he fostered, cherished and nourished as his own, resolves to express its bereavement at his loss in the same affectionate conviction that it voiced of him during his life, "That he touched nothing that he did not adorn it".

Owsley Grant,  
C. W. Rogers,  
R. I. Kerr,  
Committee.

There being no further business the society adjourned.

E. F. Horine, Secretary.

## BOOK REVIEWS

Military Meat and Diary Hygiene. Compiled by Captain Horace S. Eakins, V. C. Medical Department, U. S. A., Williams and Wilkins Co., Baltimore, M.D.

Though written from the standpoint of military hygiene, this book contains information of practical value to health officials who are as vitally interested in the sanitation of the food supply of the public as the Medical Department is interested in that of the Army.

As a reference the volume is admirably arranged and indexed and would be a valuable addition to the desk and book shelf of every member of the medical profession, especially those who are also members of the Medical Reserve Corps or directly connected with health work in cities or counties.

**The Human Testis**—Its gross anatomy, histology, physiology, pathology, with particular reference to its endocrinology, aberrations of function and correlation to other endocrines, as well as the treatment of diseases of the testis and studies in testicular transplantation and the effects of the testicular secretions on the organism, 308, Illustrations.

By Max Thorek, M. D., Surgeon-in-Chief, American Hospital; Consulting Surgeon, Cook County Hospital, Chicago, Ill.; President, International Congress on Comparative Pathology, Rome, Italy, 1924, etc.

J. B. Lippincott Company, Publishers, London, Philadelphia and Montreal. Price \$8.00.

In this book on *The Human Testis*, its gross anatomy, histology, physiology, pathology, with particular reference to its endocrinology, and correlation to other endocrines, as well as studies in testicular transplantation and the effects of the testicular secretions on the organism, you are offered the only complete work on its subject in any language.

Many of the conclusions in this volume are the results of painstaking, personal observation, and the checking-up of the laboratory and clinical work and research have not hitherto been published. All obtainable data contained in the literature have been brought down to date.

One of the main objects of this work is the study of the endocrinology of the testis, presenting all facts from the literature and the most recent results of strictly scientific investigation, with all obtainable proofs so that there should be no difficulty in arriving at the exact conclusion of the scientific value of all work accomplished to date, including the author's own findings as the result of his investigation and surgical application of knowledge gained in sex-gland transplantation with details of his technique and the results as shown by microscopic examination and clinical finding.

In addition there are complete chapters on the etiology, diagnosis and treatment of such conditions as tuberculosis and all forms of tumors of the testis; in fact of all diseases affecting that organ, as well as the latest methods of surgical and other forms of treatment in such conditions as varicocele, hydrocele, vasotomy, anastomosis of the vas deferens, plastic defects, injuries, elephantiasis, cryptorchidism, orchiepididymitis, funiculitis, deferentitis, etc., etc.

A complete bibliography is appended.

Surgeons, urologists, neurologists, the internist, general practitioner and all at all interested in any of the phases of endocrinology will be delighted with the scope and content of the reliable information in this work and the practicability of its presentation.

## NEWS ITEMS

Dr. Lillian H. South, Director of the Bureau and Bacteriology, of the Kentucky State Board of Health spent a week in the Laboratories of the Michigan State Board of Health at Lansing.

Dr. James B. R. Cooper, Louisville, aged 60, died September 23, 1924 from fatty degeneration of the heart.



## CITY VIEW SANITARIUM

(Established 1907)

For MENTAL and NERVOUS DISEASES and ADDICTIONS  
Moved to its new location July 1, 1922. An entirely new plant has been erected.

Separate buildings for men and women, ideally arranged and equipped with every facility for the comfort, care and treatment of the class of patients received. Situated in the midst of a fifty acre tract, and surrounded by large grove and attractive lawns. Two resident physicians. Training school for nurses. References: The medical profession of Nashville.

JOHN W. STEVENS, M. D., PHYSICIAN IN CHARGE,

R. F. D. No. 1

NASHVILLE, TENN.

On Murfreesboro Pike, one-half mile east of old location.

## HIGH OAKS---Dr. Sprague's Sanatorium

For Mental and Nervous diseases, drug and liquor addictions.

Homelike care under expert medical supervision. Attractive new buildings with modern equipment for treatment and comfort of patients. Large grounds, outside of city limits. Individual study and appropriate therapy for each patient. Complete hydrotherapeutic equipment. Experienced nurses.

For rates and information address



Phone 302.

GEO. P. SPRAGUE, M.D., Lexington, Ky.





SAFE  
TROUBLE PROOF  
SIMPLE  
EFFICIENT  
ECONOMICAL  
PORTABLE



### Individual Type \$20

*With Two Cylinders \$50*

*Both Types with Two Cylinders \$75*

Individual Type Chlorine Ejector is made of crystal glass and polished hard rubber with *no metal parts to corrode*. Attached is the inhaler made of non-corrosive parts. The carrying case is of mahogany finished wood.

**T**HE Individual Type of Gilchrist Chlorine Ejector designed especially for physicians who find it impractical to install a chlorine chamber in their offices and also for the additional advantage enabling them to furnish to their patient an ejector that may be taken to the home or office.

The simplicity of this device will appeal to the medical profession, as the physician or his assistant can charge a dozen of these individual types in fifteen minutes and have them ready for service.

This type is operated on the same principle as the other Gilchrist Ejectors. Only 50 c.c. are needed for the hour treatment, being injected into the device direct from a cylinder of pure chlorine, the cylinder then being laid aside for future use.

With the outlet apparatus adjusted (suspended about the neck, and resting just below the nose of patient) the patient opens the control valve, thus permitting the gas to seep out over the period of one hour and the gas mixing with the air gives just the concentration required.

When filled this type can be carried to the home or office by the patient without any loss of gas, or the slightest danger. No complicated adjustment is required by the patient and it is absolutely safe.

Write for our book on "The History of Chlorine Gas as a Therapeutic Agent in Certain Respiratory Diseases", for it will be an interesting and valuable adjunct to your medical library. It contains graphs and charts of results obtained covering over 900 cases treated by the Gilchrist Method.

*Sold by leading Physicians, Supply Houses or direct by*

### Improved Chamber Type \$25

*With Two Cylinders \$55*

*Both Types with Two Cylinders \$75*

The improved chamber type made of crystal glass and polished hard rubber with *no metal parts to corrode*. The carrying case is of mahogany finished wood with compartments for two cylinders.

**T**HIS type is for use in a physician's gas chamber, the hospital, or it may be transported to a home and a treatment given there, when the individual type is not suitable, (such as in the treatment of small children for whooping cough.)

The physician or his assistant can easily turn into this ejector 600 cubic centimeters of pure chlorine gas, tighten a valve and the ejector is ready for use or transportation.

Upon entering the chlorine chamber or room in the home, the desired initial concentration is turned on, depending upon the cubical contents of the room.

Now by a simple adjustment the device is set to allow, for instance a seepage of 400 c.c. during one hour which automatically maintains the required concentration, to take care of absorption of gas by the patients or furnishings of the room.

A chart accompanying the ejector gives required initial concentration for any sized room and required amount of seepage.

The chamber ejector has a capacity sufficient for the largest room likely to be used. Lesser amounts of gas can be employed as the occasion requires.

With this type it is not necessary to take a cylinder of the gas into the home or chamber. It has no complicated mechanism; is simple, safe and durable.

# NATIONAL RESEARCH LABORATORIES

Westinghouse Building

Pittsburgh, Penna.













